

Fishery Data Series No. 13-48

Kodiak Management Area Salmon Escapement and Catch Sampling Results, 2012

by

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October 2013

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative		<i>all standard mathematical</i>	
deciliter	dL	Code	AAC	<i>signs, symbols and</i>	
gram	g	all commonly accepted		<i>abbreviations</i>	
hectare	ha	abbreviations	e.g., Mr., Mrs.,	alternate hypothesis	H_A
kilogram	kg		AM, PM, etc.	base of natural logarithm	e
kilometer	km	all commonly accepted		catch per unit effort	CPUE
liter	L	professional titles	e.g., Dr., Ph.D.,	coefficient of variation	CV
meter	m		R.N., etc.	common test statistics	(F, t, χ^2 , etc.)
milliliter	mL	at	@	confidence interval	CI
millimeter	mm	compass directions:		correlation coefficient	
		east	E	(multiple)	R
		north	N	correlation coefficient	
Weights and measures (English)		south	S	(simple)	r
cubic feet per second	ft ³ /s	west	W	covariance	cov
foot	ft	copyright	©	degree (angular)	°
gallon	gal	corporate suffixes:		degrees of freedom	df
inch	in	Company	Co.	expected value	E
mile	mi	Corporation	Corp.	greater than	>
nautical mile	nmi	Incorporated	Inc.	greater than or equal to	≥
ounce	oz	Limited	Ltd.	harvest per unit effort	HPUE
pound	lb	District of Columbia	D.C.	less than	<
quart	qt	et alii (and others)	et al.	less than or equal to	≤
yard	yd	et cetera (and so forth)	etc.	logarithm (natural)	ln
		exempli gratia		logarithm (base 10)	log
Time and temperature		(for example)	e.g.	logarithm (specify base)	log ₂ etc.
day	d	Federal Information		minute (angular)	'
degrees Celsius	°C	Code	FIC	not significant	NS
degrees Fahrenheit	°F	id est (that is)	i.e.	null hypothesis	H_0
degrees kelvin	K	latitude or longitude	lat or long	percent	%
hour	h	monetary symbols		probability	P
minute	min	(U.S.)	\$, ¢	probability of a type I error	
second	s	months (tables and		(rejection of the null	
		figures): first three		hypothesis when true)	α
Physics and chemistry		letters	Jan, ..., Dec	probability of a type II error	
all atomic symbols		registered trademark	®	(acceptance of the null	
alternating current	AC	trademark	™	hypothesis when false)	β
ampere	A	United States		second (angular)	"
calorie	cal	(adjective)	U.S.	standard deviation	SD
direct current	DC	United States of		standard error	SE
hertz	Hz	America (noun)	USA	variance	
horsepower	hp	U.S.C.	United States	population	Var
hydrogen ion activity	pH		Code	sample	var
(negative log of)		U.S. state			
parts per million	ppm		use two-letter		
parts per thousand	ppt,		abbreviations		
	‰		(e.g., AK, WA)		
volts	V				
watts	W				

FISHERY DATA SERIES NO. 13-48

**KODIAK MANAGEMENT AREA SALMON ESCAPEMENT AND
CATCH SAMPLING RESULTS, 2012.**

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October 2013

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This document should be cited as:

Moore, M. L. 2013. Kodiak management area salmon escapement and catch sampling results, 2012. Alaska Department of Fish and Game, Fishery Data Series No. 13-48, Anchorage.

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ABSTRACT

Over 1.2 million sockeye salmon *Oncorhynchus nerka* were enumerated through Alaska Department of Fish and Game (ADF&G) salmon counting weirs in the Kodiak Management Area (KMA) during 2012. Approximately 12,700 adult sockeye salmon were sampled for age, sex, and length (ASL) on major river systems in the KMA; these data were used to represent escapement age compositions. The predominant age classes in the escapement were age-2.2 (61.7%), -1.3 (10.0%), -1.2 (9.7%), and -2.3 (9.7%) fish, but primary age classes varied by system.

The 2012 commercial salmon catch in the KMA totaled approximately 20.2 million fish, including fish caught in the Kodiak Salmon Test Fishery and fish retained for personal use. The 2012 catches were similar to the recent 5 and 10 year averages, and last year's catch (2011), of 20.0 million fish (all species combined). The harvest consisted of approximately 15,000 Chinook *O. tshawytscha*, 2.2 million sockeye, 210,000 coho *O. kisutch*, 16.9 million pink *O. gorbuscha*, and 866,000 chum *O. keta* salmon. Sockeye salmon were sampled by ADF&G for age determination from a variety of catch areas throughout the KMA. Approximately 17,000 scales were used to represent a combined commercial harvest of approximately 1.2 million sockeye salmon from sampled areas. ASL samples collected from the 2012 commercial catch revealed an age structure composed predominantly of age-2.2 (46.7%), -1.2 (17.0%), and -1.3 (16.6%) fish; however, primary age classes varied by section and district.

Sockeye salmon brood tables were updated for the Karluk, Ayakulik, Upper Station, and Frazer systems; 10-year average return-per-spawner estimates ranged from 1.2 for Ayakulik to 2.1 for the Upper Station early run. The examination of historical trends in sockeye salmon age compositions show tremendous variability within and among systems.

Key words: Kodiak, escapement, sockeye salmon, commercial harvest, age, historical trends.

INTRODUCTION

The Kodiak Management Area (KMA) encompasses western Gulf of Alaska waters surrounding the entire Kodiak Archipelago in addition to the waters along that portion of the Alaska Peninsula from Cape Douglas to Kilokak Rocks (Figure 1). There are about 800 anadromous salmon systems identified in the KMA (Johnson and Blanche 2010). All combined, these systems support five commercially important salmon species: Chinook *Oncorhynchus tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon. About 49 of these systems support sockeye salmon runs (Jackson et al. 2012).

Weirs operated by the Alaska Department of Fish and Game (ADF&G) are vital for salmon enumeration into many KMA streams and provide the basis for inseason management actions regulating the commercial, sport, and subsistence fisheries in the area (Figure 2; Fuerst 2013). Additional streams are monitored by aerial and foot surveys to index pink, chum, coho, and remaining sockeye salmon escapements (Jackson et al. 2012).

The KMA is composed of seven commercial salmon fishing districts and 56 sections (Figures 1 and 3–7). The primary emphases of the ADF&G commercial salmon fishery harvest strategy are to promote maximum sustained yield for future salmon returns to the KMA, provide for orderly fisheries while maximizing harvest opportunities on the highest quality salmon, and to adhere to management plans adopted by the Alaska Board of Fisheries (Jackson and Dinnocenzo 2012). The targeted escapement goals for KMA salmon are: 8,000–17,000 Chinook, 750,000–1.7 million sockeye, 2.3 million–5.8 million pink, 6,000–14,000 coho, and 255,000 chum salmon (Nemeth et al. 2010). Directed commercial fisheries occur for sockeye, pink, chum, and coho salmon, whereas Chinook salmon are not targeted. To open and close fisheries in season, managers use qualitative analyses of run timing, catch per unit effort statistics, species composition estimates, regulatory management plans, aerial survey estimates, test fishery results, and weir escapement counts (Jackson and Dinnocenzo 2012; Jackson et al. 2012).

The Commercial Fisheries Division of ADF&G, initiated an expanded catch and escapement sampling program in the KMA in 1985, focusing on sockeye salmon. The purpose of this program was to collect representative ASL data from major sockeye salmon systems as well as representative age data from selected commercial sockeye salmon harvests. These data continue to expand the KMA salmon baseline ASL database. Samples are used to reconstruct sockeye salmon runs, employ age marker analysis, conduct scale pattern analyses (SPA), and examine historical harvest proportions to estimate specific stock contributions to commercial fisheries in the KMA (Baer and Honnold 2002; Barrett and Nelson 1995; Foster 2006–2011; Nelson 1999; Nelson and Barrett 1994; Nelson and Swanton 1996, 1997; Sagalkin 1999; Swanton 1992; Witteveen et al. 2005). Accordingly, these samples provide the foundation for preseason run forecasting and escapement goal evaluation.

OBJECTIVES

This report presents a summary of the results of the 2012 KMA salmon sampling programs, including a compilation of all the data that was collected. While there is some interpretation and discussion of these data, this report does not provide a rigorous analysis, but rather aims to cover the following objectives:

1. Report the escapements by system and species in 2012 (sockeye salmon returning to systems with weirs; Table 1).
2. Provide ASL summaries from salmon sampled from both the escapement and commercial harvest. Historical trends and productivity (R/S) for select salmon stocks will be described.
3. Report the total catch by species in the KMA in 2012.
4. Reconstruct the 2012 run size for select stocks in the KMA.
5. Describe the results of the Kodiak salmon test fishery.

METHODS

ABUNDANCE ESTIMATES

Escapement

Salmon escapement was estimated by ADF&G using weirs at eight river systems in the KMA. The following systems are included in this report: Karluk, Ayakulik (Red Lake), Frazer (Dog Salmon Creek), Upper Station (South Olga Lakes), Afognak (Litnik), Saltery, and Pasagshak. The Division of Sport Fish operated weirs within the Buskin River system, but this smaller system falls outside the scope of this report.

Escapements at weirs were enumerated by field technicians and biologists using hand tally denominators as fish migrated upstream through aluminum panel gates (Fuerst 2012). Gates are closed to allow fish buildup and are intermittently opened to allow salmon enumeration and passage. Full descriptions of weirs are reported in the KMA Weir Descriptions and Salmon Escapement Report (Foster et al. 2012; Fuerst 2012). Counts were considered a complete census with estimates added to the total counts when high water events washed out weirs or after weir removal at season's end. Escapements were estimated by aerial or foot surveys when not directly counted.

Commercial Harvest

KMA salmon catch numbers for the 2012 season were obtained from summary reports of individual harvest receipts (fish tickets). The fish ticket and escapement databases were edited by Kodiak area salmon management biologists prior to summary reports being generated on December 17, 2012.

AGE, SEX, AND LENGTH SAMPLING

Escapement

Sockeye salmon escapements were sampled weekly for ASL data at weirs on the Karluk River (ADF&G stream number 255-10-101), Ayakulik River (ADF&G stream number 256-15-201), Upper Station (ADF&G stream number 257-30-304), Frazer (ADF&G stream number 257-40-403), and Pasagshak systems (ADF&G stream number 259-43-411; Figure 2; Moore 2012a). Frazer Lake salmon are initially enumerated at the Dog Salmon weir (near saltwater) and then counted again as they ascend the fish pass into Frazer Lake. Statistical (sampling) weeks and dates are presented in Table 2. Fish were generally collected using a live-box trap attached to the upstream side of the weir(s). During August and September, Karluk River samples were often collected with a beach seine in the lagoon when scale samples collected at the weir indicated heavy reabsorption or if fish movement was nonexistent. Reabsorption occurs when spawning adults stop feeding and absorb protein from their bodies leaving only the center of their scales. Ideally, three samples of 80 fish were collected weekly on alternating days to meet the required weekly sample size of 240 fish. Within-week adjustments were made in the schedule when necessary to obtain the full sample. The weekly sample size enabled all escapement age classes to be simultaneously estimated within $\pm 6.5\%$ of the true proportions with 90% confidence (Thompson 1987). For Afognak Lake (ADF&G stream number 252-34-342), and Saltery Lake (ADF&G stream number 259-41-415), a goal of 600 fish was established, with the sampling effort distributed throughout the season and proportional to escapement counts (i.e., peaks in sampling effort occurred during peaks of escapement).

Commercial Harvest

Catch samples were collected at the Port of Kodiak, Larsen Bay, Olga Bay, Spiridon Bay SHA, Foul Bay SHA, Waterfall Bay SHA, and Kitoi Bay SHA (Figures 2–7). The catch sampling crews obtained fish ticket information before collecting samples to determine if the fish were exclusively harvested from the section designated to be sampled. If fish ticket data were not available, the sampling crew interviewed the processing facility dock foreman or tender operator. Once fish ticket information became available, the origin of the catch was confirmed.

Specific commercial sockeye salmon catches were sampled weekly for age determination during commercial fisheries (Moore 2012a; Table 3). A weekly sample size of 400 fish enabled all commercially harvested age classes to be simultaneously estimated within $\pm 6.5\%$ of the true proportion with 95% confidence (Thompson 1987). Consistent with weir sampling, 240 fish were sampled weekly for ASL data from the Spiridon Bay Special Harvest Area (SBSHA) to represent the Spiridon Lake sockeye salmon run. A desired seasonal sample of 600 commercially caught salmon exists for sockeye salmon returning to Waterfall Bay SHA and Foul Bay SHA, and chum salmon returning to Kitoi Bay SHA.

When possible, all scales were collected from the preferred area of each fish following procedures outlined by the International North Pacific Fisheries Commission (INPFC 1963).

Scales were mounted on scale “gum” cards and impressions were made on cellulose acetate (Clutter and Whitesel 1956). Fish ages were assigned by examining scale impressions for annual growth increments using a microfiche reader fitted with a 48X lens following designation criteria established by Mosher (1968). Ages were recorded directly into the database via the Kodiak intranet salmon aging utility and are displayed in this report using European notation (Koo 1962), in which a decimal separates the number of winters spent in fresh water (after emergence) from the number of winters spent in salt water. The total age of the fish includes an additional year, that is not recorded, which represents the time between egg deposition and emergence of fry. Length measurements were taken from mid eye to tail fork (METF) in millimeters and sex was determined from external morphological characteristics. All ASL data were recorded on handheld digital sampling devices (Moore 2012a). The ASL data summaries were computed for each escapement sample. Age and sex composition were estimated daily by interpolating between sampling events, then summarized weekly. When sampling goals were not achieved, the escapement age composition estimate was limited to the statistical week that the sample was taken in. Length composition data were summarized by age and sex.

When weekly targeted catch sample sizes were obtained, total catch-at-age by area and day were estimated by multiplying the daily age composition of a particular sample by the daily catch from the corresponding catch area. Age composition of the catch from days not sampled was estimated using linear interpolation between sampling events. Descriptions of component programs used to compute ASL composition summaries can be found in database end user documentation (Unpublished ADF&G Commercial Fisheries Division database documentation obtained from Neil Moomey, 2012, Kodiak, Alaska).

SOCKEYE SALMON RUN RECONSTRUCTION ESTIMATES

Spiridon Lake

The majority of Spiridon-bound sockeye salmon are assumed to be harvested within the SW Afognak Section and the NW Kodiak District. From 1998 through 2007, the number of Spiridon-bound sockeye salmon harvested in the SW Afognak Section and the NW Kodiak District was estimated using scale pattern analysis (SPA) developed from 1994 to 1997. From 2008 through 2012, new methods were developed in response to changes in salmon run strength and harvest patterns.

Low Karluk Lake sockeye salmon abundance during the 2008 through 2011 seasons decreased fishing time and harvest in the Central Section of the NW Kodiak District. Research staff were concerned about the utility of using the Spiridon run reconstruction methods from 1998 through 2007, which were developed under a different fishery climate and broodstock. Therefore, for 2008 through 2011, sockeye salmon scale samples collected from certain statistical areas in the NW Kodiak District were visually analyzed for the presence of a distinct age-2.2 scale pattern found in Spiridon bound fish. Specifically, sockeye salmon scales were examined from the Uyak Bay vicinity (statistical areas 254-10 to 254-40) and the Uganik Bay/Viekoda Bay/Kupreanof Strait vicinities (statistical areas 253-11 to 253-35). Catch in these areas, attributed to the Spiridon run by visual SPA, was then attributed to the Spiridon run. This method of run estimation was again conducted in 2012, despite higher Karluk Lake sockeye salmon abundance.

In 2012, roughly 8,300 individual scales from the commercial harvests in the NW Kodiak District were assessed for the presence of the Spiridon age-2.2 scale pattern, similar to the method used from 2008 to 2011. The percent of Spiridon-bound salmon in the SW Afognak

harvest was estimated as half of the Uganik Bay/Viekoda Bay/Kupreanof Strait weekly percent as a result of the 1997 Spiridon SPA (Nelson 1999). Results were compared to the stock separation SPA conducted from 1994 to 1997 and in 2008 (Foster 2008–2011; Nelson 1999; Nelson and Barrett 1994; Nelson and Swanton 1996–1997) to gauge the validity of the analysis.

The Spiridon-bound NW Kodiak District and SW Afognak Section catch estimates were combined with the SBSHA sockeye salmon catch to estimate the size of the 2012 Spiridon Lake run. The age composition of the SBSHA commercial harvest samples were applied to the total Spiridon Lake run to estimate the age structure.

Karluk Lake

Early Run

The majority of Karluk sockeye salmon are assumed to be harvested within the NW and SW Kodiak Districts (Barrett and Nelson 1995). A natural age marker (freshwater-age-3) was used to estimate the number by age class of sockeye salmon bound for Karluk Lake that were harvested in the westside Kodiak commercial fishery (Witteveen et al. 2005). Karluk early- and late-run sockeye salmon are temporally and genetically distinct. The early run typically escape in June and early July. Catch through 15 July and escapement through 21 July has historically been considered the early run; the six day difference between the two dates accounts for considerable lag time between harvest and escapement at Karluk weir.

The number of Karluk Lake bound sockeye salmon harvested in the Central, Inner and Outer Karluk, and Sturgeon sections through 15 July was estimated following the methods described in Barrett and Nelson (1995). The total Karluk Lake early-run estimate was calculated by summing the escapement (through 21 July) and assigned catch numbers by age class. Estimates by age class were assigned to the parent year (brood year) escapement and return-per-spawner (R/S) estimates were calculated by dividing annual returns by respective parent year escapements.

Late Run

Karluk Lake late-run sockeye salmon typically escape in August and September. Catches after 15 July and escapements after 21 July have historically been considered the late run.

The number of Karluk Lake bound sockeye salmon harvested in the Central, Inner and Outer Karluk, Inner and Outer Ayakulik, and Halibut Bay sections after 15 July were estimated following the methods described in Barrett and Nelson (1995). The total Karluk late-run estimate was determined by summing the escapement (after 21 July) and assigned catch numbers by age class. Estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

Ayakulik River (Red Lake)

The majority of sockeye salmon bound for Ayakulik are assumed to be harvested within the SW Kodiak District. Historically, the Ayakulik run reconstruction was accomplished by combining the Ayakulik River weir sockeye salmon escapement, 90% of the total Inner and Outer Ayakulik sections sockeye salmon catch, and 33% of the Halibut Bay Section sockeye salmon catch for the period from 21 June through 1 August by age class (Witteveen et al. 2005). Due to the age composition and timing of the Ayakulik-Halibut Bay catch samples, 99.7% of the Ayakulik-Halibut Bay sections harvest through 15 August and 33% of the harvest after 15 August were used to estimate the commercial catch attributable to the 2012 Ayakulik sockeye salmon run.

Twenty percent of the fish caught in the Karluk and Sturgeon sections of the SW Kodiak District were attributable to the 2012 Ayakulik sockeye salmon run through 15 August, and 15% of the Karluk and Sturgeon sections catch were attributable to the Ayakulik sockeye salmon run after 15 August. Estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements. Although the Ayakulik sockeye salmon run reconstruction and brood tables are not separated into early- and late-run components, historically (prior to 1989) the run was treated as such. In addition, separate early- and late-run goals for Ayakulik sockeye salmon were reinstated in 2011 (Nemeth et al. 2010). Thus, the 2012 Ayakulik age and sex composition tables contained in this report are separated into early and late components for comparative purposes; however, separate early- and late-run brood tables have not yet been developed. While Ayakulik early- and late-run sockeye salmon are genetically distinct, the two runs are not as temporally distinct as that observed at Karluk and Upper Station. Therefore the early- and late-run separation date of 15 July is fairly arbitrary, but was chosen for consistency with the other early- and late-run Kodiak sockeye salmon systems.

Frazer Lake (Dog Salmon Creek)

The majority of sockeye salmon bound for Frazer Lake are assumed to be harvested in the Alitak District. Run timing of Frazer Lake (Dog Salmon Creek) sockeye salmon coincides with both the early- and late- runs to Upper Station (Sagalkin 1999), and therefore run reconstructions for both are done concurrently. Based on previous studies (Swanton 1992, Tyler et al. 1986), 80% of the catch in the Cape Alitak and Humpy-Deadman sections and 95% of the catch in the Alitak, Moser, and Olga Bay sections were assumed to be of either Frazer Lake or Upper Station origin (Witteveen et al. 2005). The Frazer Lake catch estimate was based on a weekly proportion (using a running 3-day average) of Frazer/Upper Station harvest proportion escapement on 80% of the Cape Alitak Section harvest and 95% of the Alitak, Moser, and Olga Bay sections harvest. The Frazer/Upper Station age composition estimates, determined from scale samples collected weekly, were used to apportion harvest to the Frazer and Upper Station runs. The differences between Frazer and Upper Station travel time between gillnet harvest and escapement were accounted for in the analysis (Foster 2003) and jacks were eliminated for standardization. The catch estimate for Frazer Lake, by age class, was added to escapement counted at the Dog Salmon Creek weir (based on age classes sampled at Frazer fish pass). Total run estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

Upper Station (South Olga Lakes)

Early Run

Upper Station (South Olga Lakes system) has a temporally and genetically distinct early- and late-run sockeye salmon component and each component was estimated separately in 2012. The early run typically escapes in June and early July. Catch and escapement through 15 July has historically been considered the early run.

Upper Station early-run sockeye salmon are generally harvested along with the Frazer Lake run in the Alitak District during June and early July. The early-run catch estimate was based on a weekly proportion of Frazer/Upper Station escapement differences as described above for the Frazer Lake run reconstruction through 15 July. Total run estimates by age class were assigned

to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

Late Run

Upper Station late-run sockeye salmon typically escape in August and September. Catch and escapement after 15 July has historically been considered the late run.

The number of Upper Station late-run sockeye salmon harvested in the Alitak District after 15 July were estimated in an identical fashion as the early run until August 22. After August 22, all harvest in the Alitak District was attributed to Upper Station. The total Upper Station late-run estimate was determined by summing escapement counts after 15 July from the Upper Station weir and assigned catch numbers by age class. Estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

BROOD TABLES AND HISTORICAL TRENDS

All run reconstruction estimates were used to update their respective brood tables. Reliable and consistent run reconstruction data for Karluk Lake only date back to 1985; however, smaller more defined harvest areas for Ayakulik River, Upper Station, and Frazer Lake salmon provide reliable data back to the early 1970s. Total run estimates, and annual trends in freshwater and saltwater ages of sockeye salmon, by run year, were graphed for visual interpretation (Figures 8-16).

KODIAK SALMON TEST FISHERY

A purse seine test fishery was conducted in the Outer Karluk Section of the Southwest Kodiak District on 6 and 7 June. As required by the contract, a minimum of six standardized sets were conducted on each day of the test fishery. Each set was enumerated by species, and scale samples were collected for age determination from a minimum of 40% of the harvest from the standardized sets. Test fishery protocol follow the methods of the Kodiak Sockeye Salmon Test Fishery Operational Plan (Moore 2012c).

RESULTS

ABUNDANCE ESTIMATES AND ASL DATA

Escapement

A total estimate of 1,233,498 sockeye salmon escaped through 7 weirs in the KMA during 2012 (Tables 4 and 5); this figure includes 154,416 fish that were originally counted through Dog Salmon weir, but not the 148,884 fish that subsequently ascended the Frazer fish. The Frazer fish pass count is considered the best escapement estimate for sockeye salmon since some sockeye salmon that pass Dog Salmon weir fail to get counted at Frazer fish pass and may not spawn. A total of 12,752 escapement scale samples were ageable, representing a combined escapement of 1,227,966 sockeye salmon (Table 6). To simplify reporting hereafter, all estimates of age composition will be rounded to the nearest percent. In its entirety, the escapement was mainly composed of 5- (72%), 6- (14%) and 4- (13%) year-old fish. Primary age classes varied by system and area, but major overall age classes were 2.2 (62%) and 1.3 (10%), followed by smaller percentages of age-1.2, -2.3 and -3.2 (Table 6) fish. Individual age, length, and sex composition summaries by escapement area are presented in Tables 7 through 33.

On Afognak Island, age-1.3 (57%) and -1.2 (16%) sockeye salmon predominated Afognak Lake escapement (Table 7). On the westside of Kodiak Island, escapement to Karluk Lake was predominated by age-2.2 (74%) and -1.2 (6%) sockeye salmon in the early run (Table 10), and by age-2.2 (77%) and -3.2 (13%) sockeye salmon in the late run (Table 13). On the SW end of Kodiak Island, escapement to Ayakulik River was composed of age-2.2 (36%), -1.3 (29%) and -1.2 (16%) sockeye salmon in the early run (Table 15), and by age-2.2 (85%) and -2.3 (5%) sockeye salmon in the late run (Table 18). In the Alitak District, escapement to Upper Station was predominated by age-2.2 (54%), -1.2 (22%), and -2.3 (15%) in the early run (Table 20), and by age-2.2 (65%) and -1.2 (20%) sockeye salmon in the late run (Table 23). Escapement to Frazer Lake was predominated by age-2.2 (54%), -2.3 (26%), and -1.2 (14%) sockeye salmon (Table 25). On the eastside of Kodiak Island, escapement to Saltery Lake was predominated by age-1.3 (37%), -2.3 (33%) and -2.2 (19%) sockeye salmon (Table 28). Pasagshak River sockeye salmon were composed primarily of age-1.3 (56%), -0.2 (18%), and -0.3 (13%) fish (Table 31).

In 2012, for all ages combined, the average length of sockeye salmon was largest in the Saltery River run (543 mm; Table 29), and smallest in the Karluk River early run (486 mm; Table 11). For age-2.2 sockeye salmon, average length of sockeye salmon was largest in the Upper Station late run (536 mm; Table 24) and smallest in Pasagshak (471 mm; Table 32). Age-2.3 sockeye salmon were largest at Pasagshak (601 mm; Table 32) and smallest at Afognak (528 mm; Table 8). Sex percentages of sockeye salmon escapement samples ranged from 43% female for the Pasagshak run (Table 33) to 63% female at Frazer (Table 27).

The age composition of Kitoi Bay hatchery chum salmon broodstock samples were age-0.3 (67%), -0.4 (31%) and -0.2 (2%) (Table 36). The average size of age-0.3 Kitoi Bay broodstock chum salmon sampled was roughly 589 mm (Table 37).

Commercial Harvest

The 2012 commercial salmon catch in the KMA totaled 20,204,192 fish consisting of 14,980 Chinook, 2,237,903 sockeye, 210,350 coho, 16,874,583 pink, and 866,376 chum salmon (Tables 38 and 39). To most accurately represent run strength, these numbers include test fish harvests and personal use fish retained from commercial catch. The 2012 overall salmon harvest was less than the recent 10-year (2002–2011) average of 23.9 million fish, but similar to the recent 5-year (2007-2011) harvest. The greatest district harvest of commercial sockeye salmon occurred within the Northwest Kodiak District, followed by the Mainland and Southwest Kodiak Districts (Table 39).

During the 2012 season, sockeye salmon harvested commercially were sampled (16,688 ageable scales) and used to represent the commercial catch from areas throughout the KMA (Table 40). These samples were used to represent a combined catch of 1,216,735 sockeye salmon (Table 40). The overall sockeye salmon catch was predominantly composed of age-2.2 (47%), -1.2 (17%), and -1.3 (17%) fish; however, primary age classes varied by section and district. Individual age, length, and sex composition summaries by catch are presented in Tables 41 through 51.

Uganik-Viekoda bays commercial sockeye salmon catch were predominately age-1.3 (29%), -2.2 (25%) and -1.2 (23%) fish (Table 41). Commercial harvests in Uyak Bay were predominantly composed of age-2.2 (53%), -1.3 (16%), and -1.2 (12%) sockeye salmon (Table 42).

The Spiridon Bay Special Harvest Area (SBSHA) catch was predominantly composed of age-1.2 (45%), -2.2 (25%), and -2.3 (15%) sockeye salmon (Table 43). On average, the sampled SBSHA

sockeye salmon measured 535 mm in length (Table 44) and the estimated percentage of females in the SBSHA catch was about 59% (Table 45). The commercial sockeye salmon catch from Foul Bay SHA was predominantly age-1.2 (68%) and -1.3 (26%) fish. Sockeye salmon harvested from Waterfall Bay SHA were predominantly age-1.3 (56%) and -1.2 (36%) fish (Table 46). On average, sockeye salmon sampled at Foul Bay SHA measured 515 mm while Waterfall Bay SHA sockeye salmon measured 508 mm (Table 47).

The Ayakulik and Halibut Bay sections of the Southwest Kodiak District commercial sockeye salmon catches were predominated by age-2.2 (64%), -1.3 (15%), and -1.2 (12%) fish (Table 48). The Karluk section's catch was composed primarily of age-2.2 (67%), -3.2 (8%), and -1.3 (7%) fish (Table 49). The inside gillnet areas of Alitak Bay, Moser Bay, and Olga Bay sections showed catch samples that were predominantly composed of age-2.2 (46%), -2.3 (30%), and -1.2 (12%) sockeye salmon (Table 50). Samples were not collected from the outside purse seine areas which include the Cape Alitak and Humpy-Deadman sections.

Chum salmon harvest scale samples were taken in the Kitoi Bay Section, where the catch was predominately age-0.3 (54%) followed by -0.4 (44%) and -0.2 (2%) fish (Table 51).

SOCKEYE SALMON RUN RECONSTRUCTION ESTIMATES

Spiridon Lake

A total of 77,934 sockeye salmon were commercially harvested in the SBSHA during 2012 (Table 52). The percentage of Spiridon bound sockeye salmon harvested in the SBSHA has been above the historical average in recent years as a result of altered fishing time and harvest in the Central Section of the NW Kodiak District in the KMA. Using a visual SPA method in 2012, an estimated 45% of the Spiridon bound sockeye salmon were harvested in the SBSHA, which is close to the historical estimate of 41%, and much lower than recent years. Based on the analysis, 93,410 Spiridon Lake sockeye salmon were estimated in the Southwest Afognak Section and Northwest Kodiak District (not including the SBSHA) harvest combined. The 2012 estimated Spiridon Lake run of 171,344 sockeye salmon was below the estimated 10-year (2002–2011) average of 245,739 sockeye salmon (Figure 8).

Karluk Lake

Early Run

The 2012 Karluk Lake early sockeye salmon total run estimate of 235,886 was predominantly composed of age-2.2 (74%), -1.2 (7%) and -2.3 (6%) fish (Table 53). The estimated 2012 Karluk early run showed a large increase from 2009, 2010, and 2011 runs, but remained below the recent 10-year average (2002–2011) of 413,272 fish (Figure 9). The 1996 through 2005 Karluk early-run sockeye salmon escapements have produced an estimated average return of 428,222 fish (range: 54,010–854,229) with an average R/S estimate of 1.4 (Table 54).

Late Run

The Karluk Lake late sockeye salmon total run was estimated to be 589,797 fish in 2012 (Table 55). Age-2.2 (77%) and -3.2 (12%) fish were predominant. The 2012 run estimate was much larger than the 2011 run estimate of 265,268, but below the recent 10-year average (2002–2011) estimated run of 653,695 fish (Figure 10). The 1996 through 2005 Karluk Lake late-run sockeye salmon escapements have produced an estimated average return of 666,142 fish (range: 168,266–1,204,530) with an average R/S estimate of 1.6 (Table 56).

Ayakulik River (Red Lake)

The total run of sockeye salmon to the Ayakulik River in 2012 was estimated at 558,160 fish, with age-2.2 (57%), -1.3 (19%), and -1.2 (12%) fish accounting for the majority of the run (Table 57). The 2012 estimated run was greater than the 2011 run estimate of 431,631 fish, and the recent 10-year average (2002–2011) of 326,856 fish (Figure 11). The 1996–2005 Ayakulik sockeye salmon escapements have produced an estimated average return of 308,344 fish (range: 91,802–491,729) with an average R/S estimate of 1.2 (Table 58).

Frazer Lake (Dog Salmon Creek)

The 2012 Frazer Lake sockeye salmon total run estimate of 372,047 (Table 59) was predominantly composed of age-2.2 (47%), -2.3 (32%) and -1.2 (13%) fish. The 2012 run was nearly identical to the 2011 estimated run (372,423), and slightly above the recent 10-year average (2002–2011) of 358,191 fish (Figure 12). Frazer Lake sockeye salmon escapements from 1996–2005 have produced an estimated average return of 338,437 fish (range: 53,837–867,981) with an average R/S estimate of 2.0 (Table 60).

Upper Station (South Olga Lakes)

Early Run

The 2012 Upper Station early sockeye salmon total run estimate of 60,187 was predominantly composed of age-2.2 (48%), -2.3 (25%), and -1.2 (17%) fish (Table 61). This estimated run was greater than the 2011 run of 48,361 fish and below the 10-year average (2002–2011) of 91,650 sockeye salmon (Figure 13). The 1996–2005 Upper Station early-run sockeye salmon escapements have produced an estimated average return of 104,584 fish (range: 19,289–254,768) with an average R/S estimate of 2.1 (Table 62).

Late Run

The 2012 Upper Station sockeye salmon total late-run estimate of 213,657 fish was predominantly composed of age-2.2 (66%) and -1.2 (19%) fish (Table 63). The 2012 estimated run was greater than the 2011 estimated run (170,768) and below the recent 10-year average (2002–2011) of 292,331 fish (Figure 14). Upper Station late-run salmon escapements from 1996–2005 have produced an estimated average return of 291,237 fish (range: 110,971–480,610) with an average R/S estimate of 1.7 (Table 64).

HISTORICAL SIZE AND AGE TRENDS OF KODIAK SOCKEYE SALMON

Karluk Lake

Sockeye salmon freshwater residence time in Karluk Lake is typically 2 years, but often will extend to 3 years (Kyle et al. 1988; Rounsefell 1958). Since 1985, freshwater-age-2 sockeye salmon have predominated the annual runs with the exception of the early 1990s when freshwater-age-3 fish spiked in abundance (Figure 15). Freshwater-age-3 fish, while not normally predominant since the inception of sampling for salmon age (1920s), have consistently been an important part of the Karluk Lake early and late runs. It is important to note that extended freshwater residence for sockeye salmon often signifies decreased overall lake productivity and subsequent adult salmon returns (Foerster 1968). Recently, decreases in the freshwater-age-3 component from highly elevated levels have been evident. Between 2003 and 2010, the freshwater-age-3 component of the early run increased from 13% to 47% (Figure 15).

From 2011-2012, the percentage of freshwater-age-3 sockeye in the Karluk Lake early run decreased from 36% to 5%, bringing it below historic levels. The freshwater-age-3 component of the Karluk Lake late run saw slight increases beginning in the early 2000s, but in 2009 and 2010, the Karluk Lake late-run freshwater-age-3 component was unusually high (90% and 73%). This component of the run decreased significantly to 35% in 2011 and to 11% in 2012 (Figure 15).

Both early- and late-run Karluk Lake sockeye salmon typically spend two years in the ocean, making age-2.2 the dominant historical age class since the 1920s. The late run has historically had a lesser saltwater-age-3 component. Similar to 2011, the 2012 early and late runs had low levels of saltwater-age-3 fish (Figure 16).

Average size of age-2.2 sockeye salmon at Karluk Lake has generally declined since the mid 1980s (Table 34). The 2012 average size for the Karluk early and late runs are below historical averages (Figure 17). In 2012 the early run age-2.2 fish averaged 495 mm, and the late run age-2.2 fish averaged 520 mm (Table 34 and Figure 17).

Ayakulik (Red Lake)

Freshwater residence time for Ayakulik sockeye salmon has generally been 2 years but often fish will migrate to the ocean after spending only 1 year in Red Lake, as indicated by age samples of the escapement (Foster 2011). In 2012, roughly 67% of the run was freshwater-age-2 and 32% freshwater-age-1 (Figure 15).

Ayakulik River sockeye salmon commonly spend two years in the ocean but frequently rear at sea for three years. Age composition estimates from the 2012 run show that the saltwater-age-2 component is approximately 70% and the saltwater-age-3 component is approximately 26% (Figure 16).

In 2012 the average size of age-2.2 and -2.3 sockeye salmon at Ayakulik was above average for the early run and below average for the late run; similar to Karluk, the average size at Ayakulik has generally declined since the 1980s (Tables 34-35 and Figure 17).

Frazer Lake

Freshwater residence time for Frazer Lake sockeye salmon has typically been 2 years but often fish will outmigrate to the ocean after only 1 year (Barrett 1989; Foster 2010; Sagalkin 1999). An increasing proportion of freshwater-age-3 fish were seen beginning in the 1990s, but have been declining in the last few years (Figure 15). In 2012, the Frazer Lake sockeye salmon showed strong components of freshwater-age-2, followed by freshwater-age-1 and -3 fish (Figure 15).

Frazer Lake sockeye salmon commonly spend two years in the ocean but also rear at sea for one to three years (Figure 16). Inconsistent cycles, and highly variable saltwater ages present at Frazer are not surprising considering the recent colonization of this newly anadromous system. The last ten years have shown considerable increases in the variability of the abundance of saltwater-age-1 fish, highlighted during the 2003, 2007, and 2010 runs in which saltwater-age-1 sockeye salmon (jacks) outnumbered the saltwater-age-2 and -3 fish (Figure 16). The 2012 run was predominately saltwater-age-2 (61%) and age-3 (38%) fish.

The average size of 2012 age-2.2 sockeye salmon at Frazer was below the historical average (1985-2011; Table 34 and Figure 17).

Frazer Lake freshwater- and saltwater-ages fluctuate more than other major Westward Region sockeye salmon stocks. The recent abundance of saltwater-age-1 sockeye salmon has raised concern in the Alitak Bay area, leading management and research staff to closely monitor returns to the system.

Upper Station (South Olga Lakes)

Freshwater residence time for Upper Station early run sockeye salmon has typically been 2 years but often fish will outmigrate to the ocean after only 1 year as indicated by age data from the escapement; in 2012 the proportions favored freshwater-age-2 fish (76% for the early run and 71% for the late run). From the late 1980s to the mid 1990s, freshwater-age-2 fish were predominant in the early run, but the late run demonstrated strong components of freshwater-age-0 (Figure 15) sockeye salmon that coincided with extremely large runs (Foster 2011). Since the mid 1990s, the early run has shown strong components of both freshwater-age-1 and age-2 fish, whereas the late run has been predominately freshwater-age-2 fish.

Upper Station sockeye salmon typically spend two years in the ocean but occasionally rear at sea for three years. In 2012, the Upper Station early and late runs were composed predominantly of saltwater-age-2 fish (66% for the early run and 89% for the late run; Figure 16).

In 2012, the average size of age-2.2 and -2.3 sockeye salmon in both the early and late runs at Upper Station was slightly larger than the historical average (Tables 34–35 and Figure 17).

KODIAK SALMON TEST FISHERY

A total of 2,660 sockeye salmon and 15 chum salmon were harvested during the test fishery in 2012 (Table 65). On 6 June, 9 sets at Cape Uyak (southbound) were completed. On 7 June, a total of 8 sets were made southbound at Cape Uyak. The standardized sets yielded an average of approximately 156 sockeye salmon per set in 2012, which is greater than prior test fisheries (2011 average was 72 sockeye salmon per set, 2010 average was 58 sockeye salmon per set). The test fishery chum salmon catch of 15 fish in 2012 was far different than the 2011 catch, where the number of chum salmon caught nearly equaled the number of sockeye salmon (Moore 2012b). A summary of the test fishery is presented in Table 65.

Scale samples were collected, with the help of the fishing vessel crewmembers, from 1,099 sockeye salmon for age determination. The 2012 sockeye salmon test fish consisted predominantly of age-2.2 fish (69%), followed by age-1.3 (10%), -2.3 (7%), and -3.2 (6%; Table 66).

The estimate of Karluk River bound sockeye salmon in the harvest appeared to be high in 2012, as determined by similarity in age compositions between the test fishery catch and Karluk river escapement age compositions (through 21 June). Freshwater-age-3 fish are of particular importance, and have historically been used as an age marker for determining the percentage of Karluk bound sockeye salmon in the test fishery catch. This number was examined in 2012, but the marker utility lessens as the number of freshwater-age-3 fish in the Karluk escapement decreases. Additionally, the average size of the sockeye salmon (4.6 lb) harvested in the test fishery is consistent with the smaller size typically found in Karluk sockeye.

There was a nearly identical proportional increase in test fishery catches and Karluk River early escapement between 2010, 2011, and 2012 (Figure 18).

ACKNOWLEDGEMENTS

Alaska Department of Fish and Game management and research staff from the Division of Commercial Fisheries collected the data presented in this report. The author would like to thank anyone who assisted with data collection or logistics. M. Birch Foster assisted with aging all salmon catch and escapement scales. Heather Finkle, Steve Thomsen, Geoff Spalinger, and an anonymous peer reviewer provided editorial advice. Lindsay Gann and Kathy Greer contributed their publication expertise.

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TABLES AND FIGURES

Table 1.–Kodiak Management Area sockeye salmon escapement sampling schedule, 2012.

Sample Location	Crew Supervision	Stream No.	Sampling Frequency	Date		Sample Size
				Starting	Ending	
<i>Major Systems</i>						
Karluk River weir	G. Spalinger	255-10-101	3 times per week	25-May	30-Sep	240 (weekly total)
Ayakulik River weir	G. Spalinger	256-15-201	3 times per week	25-May	31-Aug	240 (weekly total)
Upper Station weir	G. Spalinger	257-30-304	3 times per week	25-May	30-Sep	240 (weekly total)
Frazer Lake fish pass	S. Thomsen	257-40-403	3 times per week	1-Jun	31-Aug	240 (weekly total)
<i>Minor Systems</i>						
Afognak (Litnik) Weir	S. Thomsen	252-34-342	weekly	25-May	1-Aug	600 (season total)
Saltery Lake weir	J. Estrada	259-41-415	weekly	25-Jun	1-Aug	600 (season total)
Pasagshak River Weir	M. Witteveen	259-43-411	3 times per week	10-Jun	15-Aug	240 (weekly total)

Table 2.–Statistical weeks and corresponding calendar dates, 2012.

Week	Calendar Dates	Week	Calendar Dates
10	1-Mar – 7-Mar	28	5-Jul – 11-Jul
11	8-Mar – 14-Mar	29	12-Jul – 18-Jul
12	15-Mar – 21-Mar	30	19-Jul – 25-Jul
13	22-Mar – 28-Mar	31	26-Jul – 1-Aug
14	29-Mar – 4-Apr	32	2-Aug – 8-Aug
15	5-Apr – 11-Apr	33	9-Aug – 15-Aug
16	12-Apr – 18-Apr	34	16-Aug – 22-Aug
17	19-Apr – 25-Apr	35	23-Aug – 29-Aug
18	26-Apr – 2-May	36	30-Aug – 5-Sep
19	3-May – 9-May	37	6-Sep – 12-Sep
20	10-May – 16-May	38	13-Sep – 19-Sep
21	17-May – 23-May	39	20-Sep – 26-Sep
22	24-May – 30-May	40	27-Sep – 3-Oct
23	31-May – 6-Jun	41	4-Oct – 10-Oct
24	7-Jun – 13-Jun	42	11-Oct – 17-Oct
25	14-Jun – 20-Jun	43	18-Oct – 24-Oct
26	21-Jun – 27-Jun	44	25-Oct – 31-Oct
27	28-Jun – 4-Jul	45	1-Nov – 7-Nov

Table 3.–Kodiak Management Area sockeye and chum salmon catch sampling schedule, 2012.

District	Geographic Area	Species	Statistical Area(s)	Primary Sampling Site	Crew Leader	Sample		
						Frequency	Dates	Size
Afgnak District								
	Waterfall Bay SHA ^a	Sockeye	251-84	Waterfall Bay	Shoutis	seasonally	6/1 – 7/1	600
	Foul Bay SHA ^a	Sockeye	251-41	Foul Bay	Shoutis	seasonally	6/1 – 6/9	600
	Kitoy Bay SHA ^a	Chum	253-32	Kitoy Bay	Aro	seasonally	6/1–7/1	400
NW Kodiak District								
	Uganik Bay (incl. Kupreanof)	Sockeye	253-11 – 253-35	Kodiak	Bierma	weekly	6/1 – 9/5	400
	Uyak Bay	Sockeye	254-10 – 254-40	Larsen Bay	Bierma	weekly	6/1 – 9/5	400
	Spiridon Bay SHA/Telrod Cove ^b	Sockeye	254-50	Telrod Cove	Buckhout	weekly	7/15 – 9/15	240
SW Kodiak District								
	Inner/Outer Karluk Section	Sockeye	255-10 – 255-20	Larsen Bay	Bierma	when available	6/1 – 9/5	400
	Sturgeon Section	Sockeye	256-40	Kodiak	Bierma	when available	6/1 – 9/5	400
	Halibut/Gurney Bay	Sockeye	256-25 – 256-30	Lazy Bay (Alitak)	Bierma	when available	6/23 – 8/1	400
	Inner/Outer Ayakulik Section	Sockeye	256-10 – 256-20	Lazy Bay (Alitak)	Bierma	when available	6/23 – 8/1	400
Alitak Bay District								
	Moser/Olga Bay	Sockeye	257-40 – 257-43	Olga Bay	Dias	weekly	6/5 – 8/31	400

^a Waterfall, Foul, and Kitoy bays special harvest areas (SHA) typically collect 600 samples (400 chum) total; the frequency depends on the harvest magnitude.

^b Spiridon Bay SHA collected 240 fish per week (consistent with escapement sampling).

Table 4.–Daily and cumulative (cum.) sockeye salmon escapement counted through weirs by system, Kodiak Management Area, 2012.

Date	System (weir)															
	Afognak		Karluk		Ayakulik		Upper Station		Dog Salmon Creek		Frazer fish pass		Saltery		Pasagshak	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
5/22	0	0	0	0	13	13	6	6	0	0	0	0	0	0	0	0
5/23	10	10	1	1	38	51	3	9	0	0	0	0	0	0	0	0
5/24	17	27	0	1	151	202	117	126	0	0	0	0	0	0	0	0
5/25	1	28	0	1	1	203	116	242	0	0	0	0	0	0	0	0
5/26	2	30	0	1	1,141	1,344	108	350	0	0	0	0	0	0	0	0
5/27	1	31	10	11	259	1,603	47	397	0	0	0	0	0	0	0	0
5/28	0	31	232	243	235	1,838	192	589	0	0	0	0	0	0	0	0
5/29	0	31	0	243	603	2,441	59	648	0	0	0	0	0	0	0	0
5/30	30	61	3	246	715	3,156	403	1,051	0	0	0	0	0	0	0	0
5/31	1	62	6	252	1,306	4,462	119	1,170	0	0	0	0	0	0	0	0
6/1	8	70	0	252	44	4,506	1,057	2,227	234	234	0	0	0	0	0	0
6/2	1,370	1,440	1,412	1,664	28	4,534	978	3,205	0	234	0	0	0	0	0	0
6/3	815	2,255	1,063	2,727	3,751	8,285	1,038	4,243	1	235	0	0	0	0	0	0
6/4	722	2,977	25	2,752	1,693	9,978	620	4,863	0	235	0	0	0	0	0	0
6/5	848	3,825	88	2,840	17	9,995	891	5,754	0	235	0	0	0	0	0	0
6/6	2,421	6,246	329	3,169	4,562	14,557	1,148	6,902	9	244	0	0	0	0	0	0
6/7	3,140	9,386	4	3,173	341	14,898	1,602	8,504	0	244	0	0	0	0	0	0
6/8	1,423	10,809	19	3,192	49	14,947	1,057	9,561	0	244	0	0	0	0	0	0
6/9	1,187	11,996	16	3,208	8,954	23,901	2,278	11,839	73	317	0	0	0	0	0	0
6/10	2,282	14,278	312	3,520	7,607	31,508	648	12,487	38	355	0	0	0	0	3	3
6/11	2,650	16,928	86	3,606	363	31,871	722	13,209	9	364	19	19	0	0	0	3
6/12	1,481	18,409	217	3,823	2,106	33,977	795	14,004	24	388	5	24	0	0	3	6
6/13	1,320	19,729	56,112	59,935	4,709	38,686	906	14,910	1,854	2,242	0	24	0	0	0	6
6/14	180	19,909	48,844	108,779	11,811	50,497	290	15,200	12,936	15,178	0	24	0	0	1	7
6/15	229	20,138	14,207	122,986	279	50,776	179	15,379	1,992	17,170	0	24	0	0	5	12
6/16	361	20,499	1,933	124,919	5,245	56,021	549	15,928	17,777	34,947	30	54	0	0	31	43
6/17	2,155	22,654	9,810	134,729	3,045	59,066	871	16,799	3,267	38,214	137	191	0	0	1	44
6/18	1,802	24,456	6,757	141,486	8,993	68,059	909	17,708	4,735	42,949	2	193	0	0	4	48
6/19	880	25,336	6,149	147,635	7,124	75,183	670	18,378	10,851	53,800	245	438	0	0	96	144
6/20	1,211	26,547	3,758	151,393	4,530	79,713	731	19,109	8,859	62,659	114	552	0	0	0	144
6/21	287	26,834	4,347	155,740	14,579	94,292	547	19,656	1,575	64,234	6	558	246	246	54	198
6/22	863	27,697	5,952	161,692	12,741	107,033	99	19,755	16	64,250	8	566	205	451	99	297
6/23	586	28,283	4,364	166,056	113	107,146	649	20,404	1,642	65,892	39	605	409	860	0	297

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Table 4.–Page 2 of 4.

Date	System (weir)															
	A fognak		Karluk		Ayakulik		Upper Station		Dog Salmon Creek		Frazer fish pass		Saltery		Pasagshak	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
6/24	816	29,099	1,600	167,656	4,728	111,874	404	20,808	2,185	68,077	1	606	520	1,380	5	302
6/25	624	29,723	2,697	170,353	4,819	116,693	677	21,485	2,196	70,273	4,887	5,493	763	2,143	126	428
6/26	134	29,857	1,225	171,578	1,266	117,959	712	22,197	12,386	82,659	1,149	6,642	831	2,974	22	450
6/27	600	30,457	844	172,422	8,301	126,260	399	22,596	4,240	86,899	7,981	14,623	453	3,427	193	643
6/28	722	31,179	1,959	174,381	4,418	130,678	358	22,954	3,334	90,233	11,802	26,425	597	4,024	50	693
6/29	296	31,475	499	174,880	2,408	133,086	160	23,114	1,925	92,158	4,427	30,852	253	4,277	10	703
6/30	1,167	32,642	587	175,467	10,606	143,692	200	23,314	2,403	94,561	2,134	32,986	189	4,466	11	714
7/1	201	32,843	3,805	179,272	1,481	145,173	383	23,697	2,272	96,833	14,976	47,962	381	4,847	74	788
7/2	138	32,981	107	179,379	4,981	150,154	199	23,896	1,820	98,653	6,544	54,506	351	5,198	0	788
7/3	29	33,010	188	179,567	5,797	155,951	199	24,095	1,006	99,659	832	55,338	497	5,695	1	789
7/4	28	33,038	261	179,828	1,526	157,477	224	24,319	674	100,333	40	55,378	325	6,020	71	860
7/5	0	33,038	1,119	180,947	884	158,361	149	24,468	2,044	102,377	138	55,516	263	6,283	14	874
7/6	82	33,120	345	181,292	8,218	166,579	93	24,561	1,222	103,599	12,056	67,572	62	6,345	463	1,337
7/7	287	33,407	1,730	183,022	1,006	167,585	36	24,597	5,709	109,308	4,289	71,861	550	6,895	244	1,581
7/8	32	33,439	272	183,294	3,267	170,852	92	24,689	1,311	110,619	227	72,088	346	7,241	16	1,597
7/9	0	33,439	104	183,398	7,237	178,089	223	24,912	1,939	112,558	169	72,257	173	7,414	23	1,620
7/10	141	33,580	831	184,229	3,434	181,523	182	25,094	2,275	114,833	10,307	82,564	18	7,432	20	1,640
7/11	988	34,568	105	184,334	8,513	190,036	156	25,250	380	115,213	1,078	83,642	518	7,950	341	1,981
7/12	2,615	37,183	1,570	185,904	7,798	197,834	112	25,362	5,698	120,911	90	83,732	337	8,287	38	2,019
7/13	159	37,342	186	186,090	5,018	202,852	40	25,402	963	121,874	18,150	101,882	1,110	9,397	3	2,022
7/14	69	37,411	280	186,370	261	203,113	35	25,437	18	121,892	288	102,170	661	10,058	0	2,022
7/15	70	37,481	440	186,810	10,388	213,501	50	25,487	2,038	123,930	182	102,352	607	10,665	40	2,062
7/16	45	37,526	66	186,876	23	213,524	161	25,648	74	124,004	196	102,548	864	11,529	110	2,172
7/17	45	37,571	12	186,888	4	213,528	51	25,699	9,339	133,343	432	102,980	557	12,086	35	2,207
7/18	112	37,683	264	187,152	27	213,555	683	26,382	3,794	137,137	11,049	114,029	589	12,675	405	2,612
7/19	74	37,757	263	187,415	1,817	215,372	37	26,419	481	137,618	4,159	118,188	348	13,023	353	2,965
7/20	324	38,081	349	187,764	1,628	217,000	44	26,463	109	137,727	54	118,242	1,720	14,743	96	3,061
7/21	556	38,637	321	188,085	644	217,644	33	26,496	1,924	139,651	467	118,709	1,417	16,160	3	3,064
7/22	75	38,712	185	188,270	85	217,729	197	26,693	82	139,733	621	119,330	961	17,121	0	3,064
7/23	138	38,850	13	188,283	2,153	219,882	62	26,755	48	139,781	903	120,233	440	17,561	1	3,065
7/24	101	38,951	149	188,432	6,980	226,862	1,527	28,282	3,289	143,070	424	120,657	424	17,985	166	3,231
7/25	41	38,992	108	188,540	3,154	230,016	2	28,284	1,000	144,070	8,988	129,645	1,261	19,246	101	3,332
7/26	21	39,013	274	188,814	1,118	231,134	15	28,299	364	144,434	1,773	131,418	130	19,376	6	3,338

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Table 4.–Page 3 of 4.

Date	System (weir)															
	Afognak		Karluk		Ayakulik		Upper Station		Dog Salmon Creek		Frazer fish pass		Saltery		Pasagshak	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
7/27	93	39,106	2,422	191,236	2,215	233,349	0	28,299	3,548	147,982	213	131,631	1,074	20,450	118	3,456
7/28	128	39,234	708	191,944	6,361	239,710	184	28,483	46	148,028	551	132,182	854	21,304	11	3,467
7/29	120	39,354	326	192,270	4,495	244,205	982	29,465	510	148,538	281	132,463	291	21,595	9	3,476
7/30	972	40,326	527	192,797	4,026	248,231	2,213	31,678	888	149,426	94	132,557	765	22,360	415	3,891
7/31	4	40,330	65	192,862	247	248,478	2,501	34,179	573	149,999	3,336	135,893	327	22,687	96	3,987
8/1	12	40,342	15	192,877	478	248,956	2,243	36,422	476	150,475	49	135,942	830	23,517	109	4,096
8/2	18	40,360	1,563	194,440	261	249,217	731	37,153	284	150,759	57	135,999	373	23,890	284	4,380
8/3	29	40,389	1,168	195,608	2,778	251,995	27	37,180	435	151,194	134	136,133	1,090	24,980	33	4,413
8/4	39	40,428	187	195,795	1,762	253,757	7	37,187	190	151,384	16	136,149	794	25,774	0	4,413
8/5	106	40,534	196	195,991	5,711	259,468	13	37,200	177	151,561	5,194	141,343	507	26,281	0	4,413
8/6	115	40,649	1,472	197,463	3,413	262,881	19	37,219	425	151,986	554	141,897	241	26,522	17	4,430
8/7	47	40,696	767	198,230	4,942	267,823	149	37,368	635	152,621	144	142,041	161	26,683	0	4,430
8/8	33	40,729	17,088	215,318	7,017	274,840	11,055	48,423	398	153,019	457	142,498	417	27,100	75	4,505
8/9	31	40,760	11,967	227,285	4,299	279,139	6,115	54,538	198	153,217	169	142,667	88	27,188	8	4,513
8/10	7	40,767	9,175	236,460	4,642	283,781	7,560	62,098	206	153,423	263	142,930	0	27,188	1	4,514
8/11	12	40,779	628	237,088	1,347	285,128	2,482	64,580	198	153,621	146	143,076	0	27,188	0	4,514
8/12	157	40,936	1,566	238,654	6,666	291,794	42	64,622	106	153,727	3,349	146,425	0	27,188	0	4,514
8/13	69	41,005	2,742	241,396	3,244	295,038	917	65,539	119	153,846	650	147,075	0	27,188	1	4,515
8/14	273	41,278	814	242,210	360	295,398	49	65,588	159	154,005	36	147,111	0	27,188	0	4,515
8/15	84	41,362	6,052	248,262	7,942	303,340	825	66,413	113	154,118	236	147,347	0	27,188	70	4,585
8/16	16	41,378	2,854	251,116	341	303,681	1,866	68,279	113	154,231	320	147,667	0	27,188	0	4,585
8/17	28	41,406	10,721	261,837	1,428	305,109	1,058	69,337	79	154,310	468	148,135	0	27,188	0	4,585
8/18	12	41,418	1,314	263,151	668	305,777	9,255	78,592	106	154,416	454	148,589	0	27,188	0	4,585
8/19	14	41,432	3,583	266,734	1,247	307,024	7,319	85,911	0	154,416	73	148,662	0	27,188	0	4,585
8/20	2	41,434	677	267,411	1,660	308,684	3,668	89,579	0	154,416	222	148,884	0	27,188	0	4,585
8/21	4	41,438	198	267,609	581	309,265	9,400	98,979	0	154,416	0	148,884	0	27,188	0	4,585
8/22	5	41,443	27	267,636	462	309,727	8,082	107,061	0	154,416	0	148,884	0	27,188	0	4,585
8/23	10	41,453	770	268,406	2,512	312,239	4,958	112,019	0	154,416	0	148,884	0	27,188	0	4,585
8/24	0	41,453	24,591	292,997	2,448	314,687	10,587	122,606	0	154,416	0	148,884	0	27,188	0	4,585
8/25	100	41,553	17,300	310,297	3,394	318,081	7,971	130,577	0	154,416	0	148,884	0	27,188	0	4,585
8/26	0	41,553	5,553	315,850	1,934	320,015	5,378	135,955	0	154,416	0	148,884	0	27,188	0	4,585
8/27	0	41,553	1,572	317,422	1,525	321,540	4,592	140,547	0	154,416	0	148,884	0	27,188	0	4,585
8/28	0	41,553	512	317,934	1,682	323,222	9,118	149,665	0	154,416	0	148,884	0	27,188	0	4,585

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Date	System (weir)															
	Afognak		Karluk		Ayakulik		Upper Station		Dog Salmon Creek		Frazer fish pass		Saltery		Pasagshak	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
8/29	0	41,553	2,061	319,995	864	324,086	3,006	152,671	0	154,416	0	148,884	0	27,188	0	4,585
8/30	0	41,553	3,844	323,839	2,268	326,354	2,188	154,859	0	154,416	0	148,884	0	27,188	0	4,585
8/31	0	41,553	2,440	326,279	1,200	327,554	1,012	155,871	0	154,416	0	148,884	0	27,188	0	4,585
9/1	0	41,553	1,490	327,769	700	328,254	1,525	157,396	0	154,416	0	148,884	0	27,188	0	4,585
9/2	0	41,553	988	328,757	0	328,254	1,477	158,873	0	154,416	0	148,884	0	27,188	0	4,585
9/3	0	41,553	1,047	329,804	0	328,254	4,785	163,658	0	154,416	0	148,884	0	27,188	0	4,585
9/4	0	41,553	476	330,280	0	328,254	64	163,722	0	154,416	0	148,884	0	27,188	0	4,585
9/5	0	41,553	15,000	345,280	0	328,254	821	164,543	0	154,416	0	148,884	0	27,188	0	4,585
9/6	0	41,553	1,000	346,280	0	328,254	3,127	167,670	0	154,416	0	148,884	0	27,188	0	4,585
9/7	0	41,553	363	346,643	0	328,254	2,553	170,223	0	154,416	0	148,884	0	27,188	0	4,585
9/8	0	41,553	300	346,943	0	328,254	905	171,128	0	154,416	0	148,884	0	27,188	0	4,585
9/9	0	41,553	943	347,886	0	328,254	900	172,028	0	154,416	0	148,884	0	27,188	0	4,585
9/10	0	41,553	1,616	349,502	0	328,254	777	172,805	0	154,416	0	148,884	0	27,188	0	4,585
9/11	0	41,553	3,227	352,729	0	328,254	638	173,443	0	154,416	0	148,884	0	27,188	0	4,585
9/12	0	41,553	26,383	379,112	0	328,254	338	173,781	0	154,416	0	148,884	0	27,188	0	4,585
9/13	0	41,553	3,335	382,447	0	328,254	1,031	174,812	0	154,416	0	148,884	0	27,188	0	4,585
9/14	0	41,553	10,461	392,908	0	328,254	0	174,812	0	154,416	0	148,884	0	27,188	0	4,585
9/15	0	41,553	10,782	403,690	0	328,254	0	174,812	0	154,416	0	148,884	0	27,188	0	4,585
9/16	0	41,553	10,000	413,690	0	328,254	0	174,812	0	154,416	0	148,884	0	27,188	0	4,585
9/17	0	41,553	17,000	430,690	0	328,254	0	174,812	0	154,416	0	148,884	0	27,188	0	4,585
9/18	0	41,553	2,000	432,690	0	328,254	0	174,812	0	154,416	0	148,884	0	27,188	0	4,585
9/19	0	41,553	70,000	502,690	0	328,254	0	174,812	0	154,416	0	148,884	0	27,188	0	4,585
Totals	41,553		502,690		328,254		174,812		154,416		148,884		27,188		4,585	

Note: Post-weir estimates of escapement were made for Karluk (9/19), Afognak (8/25), and Pasagshak (8/15).

Table 5.—Fish weir installation and removal dates and salmon escapements for the major systems with fish weirs in the Kodiak Management Area, 2012.

Weir Locations	Dates		Species ^a					Totals
	Installed	Removed	Sockeye	Chinook	Pink	Coho	Chum	
Karluk River	5/22	9/19	502,690	3,197	1,049,897	18,091	63	1,573,938
Ayakulik River	5/22	9/1	328,254	4,760	459,908	12,159	162	805,243
Dog Salmon Creek	6/1	8/19	154,416	152	398,687	127	1,634	555,016
Frazer Lake fish pass ^b	6/9	8/20	148,884	39	2	0	0	148,925
Upper Station	5/22	9/13	174,812	0	4,630	4,029	7	183,478
Afognak River	5/23	8/25	41,553	1	111,928	5,701	5	159,188
Saltery River	6/21	8/9	27,188	0	19,639	1	15	46,843
Pasagshak River	6/10	8/15	4,585	0	25	0	122	4,732
Totals			1,233,498	8,110	2,044,714	40,108	2,008	3,328,438

^a Counts include post weir estimates after weirs were removed.

^b Salmon counted at the Frazer fish pass were initially counted at Dog Salmon weir. All salmon counted at Frazer are not included in totals. It is important to note that sockeye salmon that pass Dog Salmon weir but fail to get counted at Frazer fish pass may not spawn, and therefore the Frazer fish pass count is considered the best escapement estimate for sockeye salmon.

Table 6.—Estimated age composition of sockeye salmon escapements by system, Kodiak Management Area, 2012.

System	Sample Size		Age											Total
			1.1	0.3	1.2	2.1	1.3	2.2	3.1	2.3	3.2	3.3	Other ^a	
Afognak Lake (Litnik)	767	Percent	2.3	0.0	15.7	0.8	56.7	14.0	0.0	10.4	0.0	0.0	0.1	100.0
		Numbers	968	0	6,531	325	23,565	5,800	0	4,315	0	0	48	41,553
Karluk Lake Early run	1,212	Percent	0.1	0.0	6.1	5.5	4.1	73.9	0.8	5.6	3.7	0.2	0.0	100.0
		Numbers	240	0	11,567	10,309	7,623	138,956	1,589	10,445	7,017	339	0	188,085
Late run	1,252	Percent	0.0	0.0	1.4	1.0	1.0	76.6	0.0	6.7	12.5	0.6	0.1	100.0
		Numbers	119	0	4,539	3,122	3,156	240,961	2	21,168	39,281	1,930	328	314,605
Ayakulik River Early run	1,449	Percent	3.5	0.1	15.8	4.5	28.6	36.3	0.1	10.4	0.6	0.1	0.1	100.0
		Numbers	7,457	283	33,661	9,612	61,015	77,425	151	22,221	1,350	136	191	213,501
Late run	1,562	Percent	1.1	0.0	3.4	0.5	5.0	85.1	0.0	4.5	0.4	0.0	0.0	100.0
		Numbers	1,245	5	3,933	534	5,686	97,605	49	5,197	449	0	50	114,753
Upper Station Early run	1,622	Percent	0.7	0.0	21.9	5.9	2.0	53.8	0.0	15.2	0.5	0.0	0.0	100.0
		Numbers	167	0	5,582	1,505	507	13,709	0	3,869	135	0	11	25,487
Late run	1,873	Percent	1.0	0.1	20.1	4.8	2.8	65.0	0.0	2.5	2.7	0.0	1.0	100.0
		Numbers	1,423	83	30,039	7,234	4,208	97,101	43	3,717	3,988	0	1,490	149,325
Frazer	2,251	Percent	0.0	0.0	13.7	1.9	2.5	53.9	0.0	26.1	1.6	0.1	0.1	100.0
		Numbers	25	0	20,393	2,763	3,795	80,265	0	38,918	2,402	130	191	148,884
Saltery Lake	550	Percent	0.4	0.4	8.0	0.0	37.4	19.4	0.0	33.2	0.0	0.0	1.1	100.0
		Numbers	106	116	2,188	0	10,165	5,282	0	9,034	0	0	296	27,188
Pasagshak River	214	Percent	0.2	13.2	11.4	0.2	56.0	0.6	0.0	0.3	0.0	0.0	18.2	100.0
		Numbers	8	604	521	8	2,568	27	0	16	0	0	833	4,585
Totals	12,752	Percent	1.0	0.1	9.7	2.9	10.0	61.7	0.1	9.7	4.4	0.2	0.3	100.0
		Numbers	11,758	1,092	118,955	35,412	122,290	757,131	1,834	118,899	54,622	2,536	3,437	1,227,966

^a The “Other” age class listed in the table above consists of age-0.1, -0.2, -0.4, -1.4, -4.1, -2.4, -4.2, -4.3, and -3.4.

Table 7.—Estimated age composition of Afognak Lake (Litnik) sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age							Total
			1.1	1.2	1.3	1.4	2.1	2.2	2.3	
21 5/17–5/23	0	Percent	0.0	1.9	81.1	0.0	0.0	3.8	13.2	100.0
		Numbers	0	0	8	0	0	0	1	10
22 5/24–5/30	0	Percent	0.0	1.9	81.1	0.0	0.0	3.8	13.2	100.0
		Numbers	0	1	41	0	0	2	7	51
23 5/31–6/06	53	Percent	0.2	4.0	78.4	0.0	0.0	4.0	13.3	100.0
		Numbers	26	360	4,710	0	0	262	827	6,185
24 6/07–6/13	253	Percent	2.3	16.5	62.0	0.0	0.1	6.3	12.8	100.0
		Numbers	294	2,166	8,440	0	11	837	1,734	13,483
25 6/14–6/20	175	Percent	5.6	19.8	54.0	0.0	0.4	11.6	8.6	100.0
		Numbers	410	1,370	3,624	0	34	833	547	6,818
26 6/21–6/27	52	Percent	1.4	18.1	45.7	0.0	0.5	25.1	9.2	100.0
		Numbers	56	706	1,792	0	16	980	360	3,910
27 6/28–7/04	38	Percent	1.0	19.7	40.5	0.0	4.2	24.6	9.9	100.0
		Numbers	3	473	1,051	0	100	689	264	2,581
28 7/05–7/11	73	Percent	6.2	26.7	42.6	0.2	2.9	13.5	7.8	100.0
		Numbers	82	379	668	7	38	229	126	1,530
29 7/12–7/18	64	Percent	1.0	15.5	46.8	1.3	1.8	23.7	9.9	100.0
		Numbers	97	624	1,411	30	63	601	290	3,115
30 7/19–7/21	0	Percent	0.0	9.8	51.0	0.7	2.4	29.5	6.7	100.0
		Numbers	0	134	662	11	30	380	93	1,309
31 7/26–8/01	33	Percent	0.0	12.8	46.4	0.1	2.4	34.6	3.7	100.0
		Numbers	0	178	619	0	33	472	48	1,350
32 8/02–8/08	19	Percent	0.0	32.2	21.9	0.0	0.3	41.3	4.3	100.0
		Numbers	0	135	73	0	1	162	17	387
33 8/9–8/15	7	Percent	0.0	3.0	53.8	0.0	0.0	42.8	0.4	100.0
		Numbers	0	5	356	0	0	271	1	633
34 8/16–8/22	0	Percent	0.0	0.0	57.1	0.0	0.0	42.9	0.0	100.0
		Numbers	0	0	46	0	0	35	0	81
35 8/23–8/29	0	Percent	0.0	0.0	57.1	0.0	0.0	42.9	0.0	100.0
		Numbers	0	0	63	0	0	47	0	110
Total	767	Percent	2.3	15.7	56.7	0.1	0.8	14.0	10.4	100.0
		Numbers	968	6,531	23,565	48	325	5,800	4,315	41,553

Table 8.—Length composition of Afognak Lake (Litnik) sockeye salmon escapement samples by age and sex, 2012.

	Age							Total
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	
Females								
Mean Length (mm)	—	470	531	560	—	477	521	513
SE	—	3	2	—	—	4	3	3
Range	—	422–547	352–585	—	—	415–547	450–564	352–585
Sample Size	0	78	269	1	0	60	52	460
Males								
Mean Length (mm)	324	471	552	—	345	494	542	506
SE	4	5	2	—	11	4	6	4
Range	295–380	380–585	459–625	—	305–395	441–572	452–590	295–625
Sample Size	22	59	145	0	7	46	26	305
All Fish								
Mean Length (mm)	324	471	539	560	345	484	528	510
SE	4	3	1	—	11	3	3	2
Range	295–380	380–585	352–625	—	305–395	415–572	450–590	295–625
Sample Size	22	137	414	1	7	106	78	765

Table 9.—Estimated sex composition of Afognak Lake (Litnik) sockeye salmon escapement by week, 2012.

Week	Dates	Sample Size		Total	Percent		Escapement		
		Females	Males		Females	Males	Number		Total
							Females	Males	
21	5/17–5/23	0	0	0	44.4	55.6	4	6	10
22	5/24–5/30	0	0	0	44.4	55.6	23	28	51
23	5/31–6/06	28	35	63	50.2	49.8	3,107	3,078	6,185
24	6/07–6/13	180	90	270	63.4	36.6	8,546	4,937	13,483
25	6/14–6/20	117	83	200	59.2	40.8	4,033	2,785	6,818
26	6/21–6/27	37	25	62	59.4	40.6	2,324	1,586	3,910
27	6/28–7/04	24	16	40	59.7	40.3	1,540	1,041	2,581
28	7/05–7/11	34	46	80	49.4	50.6	756	774	1,530
29	7/12–7/18	47	23	70	56.2	43.8	1,750	1,365	3,115
30	7/19–7/25	0	0	0	63.0	37.0	825	484	1,309
31	7/26–8/01	24	17	41	61.8	38.2	835	515	1,350
32	8/02–8/08	15	5	20	70.9	29.1	274	113	387
33	8/09–8/15	5	5	10	50.5	49.5	319	314	633
34	8/16–8/22	0	0	0	50.0	50.0	41	41	81
35	8/23–8/29	0	0	0	50.0	50.0	55	55	110
Total		511	345	856	58.8	41.2	24,433	17,120	41,553

Table 10.—Estimated age composition of Karluk Lake early-run sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age										Total
			0.2	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	
21	0	Percent	0.0	0.0	11.5	7.7	11.5	53.8	3.8	0.0	11.5	0.0	100.0
5/17–5/23		Numbers	0	0	0	0	0	1	0	0	0	0	1
22	0	Percent	0.0	0.0	11.5	7.7	11.5	53.8	3.8	0.0	11.5	0.0	100.0
5/24–5/30		Numbers	0	0	28	19	28	132	9	0	28	0	245
23	26	Percent	0.0	0.0	11.5	7.6	11.4	54.2	3.9	0.0	11.4	0.0	100.0
5/31–6/06		Numbers	0	0	336	224	334	1,581	113	1	333	0	2,923
24	206	Percent	0.0	0.0	9.4	5.7	7.2	65.4	4.8	1.3	5.9	0.3	100.0
6/07–6/13		Numbers	0	0	4,255	2,499	2,873	41,402	2,864	737	1,951	184	56,766
25	202	Percent	0.0	0.0	5.0	3.6	4.7	77.5	4.8	0.4	3.9	0.0	100.0
6/14–6/20		Numbers	0	0	5,089	3,435	4,303	70,414	4,349	454	3,336	79	91,458
26	206	Percent	0.0	0.1	4.3	3.8	6.3	73.2	6.3	1.2	4.7	0.1	100.0
6/21–6/27		Numbers	0	5	931	796	1,189	15,591	1,234	248	1,024	10	21,029
27	214	Percent	0.0	0.8	4.3	3.6	12.1	65.4	10.2	0.7	2.2	0.7	100.0
6/28–7/04		Numbers	0	35	291	252	933	4,872	744	47	174	58	7,406
28	207	Percent	0.0	2.7	7.5	4.8	8.3	62.6	11.3	1.3	1.3	0.1	100.0
7/05–7/11		Numbers	0	121	322	216	388	2,833	504	57	57	8	4,506
29	130	Percent	0.0	1.5	9.2	4.0	8.0	57.9	15.0	1.4	3.0	0.0	100.0
7/12–7/18		Numbers	0	46	259	111	235	1,678	376	41	72	0	2,818
30	21	Percent	0.0	2.5	3.7	5.3	1.4	32.2	18.9	0.2	3.0	0.0	67.2
7/19–7/25		Numbers	0	33	56	71	25	452	252	4	40	0	933
Total	1,212	Percent	0.0	0.1	6.1	4.1	5.5	73.9	5.6	0.8	3.7	0.2	100.0
		Numbers	0	240	11,567	7,623	10,309	138,956	10,445	1,589	7,017	339	188,085

Note: Karluk early-run escapement is summed through 21 July; however, samples from all of week 30 were utilized in the age composition estimates.

Table 11.—Length composition of Karluk Lake early-run sockeye salmon escapement samples by age and sex, 2012.

	Age									Total
	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	
Females										
Mean Length (mm)	—	462	527	408	487	533	—	476	538	492
SE	—	4	5	—	1	4	—	5	—	3
Range	—	413–512	446–591	—	413–579	435–600	—	421–509	—	408–600
Sample Size	0	44	33	1	413	64	0	21	1	577
Males										
Mean Length (mm)	328	474	550	370	503	558	369	486	513	481
SE	5	7	8	2	2	6	8	10	5	3
Range	310–357	369–550	468–604	324–422	334–597	476–620	335–428	400–575	508–517	310–620
Sample Size	9	33	17	90	401	34	13	17	2	616
All Fish										
Mean Length (mm)	328	467	535	371	495	541	369	480	521	486
SE	5	4	5	2	1	4	8	5	9	2
Range	310–357	369–550	446–604	324–422	334–597	435–620	335–428	400–575	508–538	310–620
Sample Size	9	77	50	91	814	98	13	38	3	1,193

Table 12.—Estimated sex composition of Karluk Lake sockeye salmon escapement by week, 2012.

Statistical Week	Dates	Sample Size		Total	Percent		Escapement		
		Females	Males		Females	Males	Number		Total
							Females	Males	
21	5/17–5/23	0	0	0	33.3	66.7	0	1	1
22	5/24–5/30	0	0	0	33.3	66.7	82	163	245
23	5/31–6/06	11	22	33	33.4	66.6	976	1,947	2,923
24	6/07–6/13	87	150	237	41.2	58.8	23,398	33,368	56,766
25	6/14–6/20	121	119	240	48.5	51.5	44,391	47,067	91,458
26	6/21–6/27	134	106	240	54.6	45.4	11,480	9,549	21,029
27	6/28–7/04	116	125	241	49.4	50.6	3,656	3,750	7,406
28	7/05–7/11	129	113	242	52.4	47.6	2,361	2,145	4,506
29	7/12–7/18	87	74	161	53.1	46.9	1,496	1,322	2,818
30	7/19–7/25	8	15	23	27.5	39.8	381	552	933
Early Run Total		693	724	1,417	46.9	53.1	88,222	99,863	188,085
30	7/19–7/25	8	15	23	13.4	19.4	186	269	455
31	7/26–8/01	126	108	234	50.9	49.1	2,209	2,128	4,337
32	8/02–8/08	114	126	240	41.9	58.1	9,406	13,035	22,441
33	8/09–8/15	70	115	185	44.1	55.9	14,536	18,408	32,944
34	8/16–8/22	188	52	240	64.1	35.9	12,426	6,948	19,374
35	8/23–8/29	97	63	160	63.6	36.4	33,294	19,065	52,359
36	8/30–9/05	122	78	200	57.0	43.0	14,410	10,875	25,285
37	9/06–9/12	115	147	262	44.3	55.7	14,992	18,840	33,832
38	9/13–9/19	0	0	0	43.9	56.1	54,242	69,336	123,578
Late Run Total		840	704	1,544	49.5	50.5	155,701	158,904	314,605

Note: Karluk early-run escapement is summed through 21 July and late-run escapement after 21 July; however, samples from all of week 30 were utilized for both early- and late-run sex composition estimates.

Table 13.—Estimated age composition of Karluk Lake late-run sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age										Total
			0.2	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	
30	21	Percent	0.0	1.2	1.8	2.6	0.7	15.7	9.2	0.1	1.5	0.0	32.8
7/19–7/25		Numbers	0	16	27	34	12	221	123	2	20	0	455
31	179	Percent	0.0	1.6	2.5	4.6	4.1	65.7	16.9	0.0	4.1	0.5	100.0
7/26–8/01		Numbers	0	88	113	220	167	2,787	750	0	191	21	4,337
32	182	Percent	0.1	0.2	2.7	2.8	3.5	68.7	18.2	0.0	3.3	0.6	100.0
8/02–8/08		Numbers	92	15	608	536	391	15,499	4,112	0	1,046	141	22,441
33	147	Percent	0.5	0.0	2.8	1.7	0.2	73.4	14.8	0.0	6.1	0.5	100.0
8/09–8/15		Numbers	189	0	904	592	49	23,739	5,258	0	2,022	189	32,944
34	209	Percent	0.2	0.0	2.8	0.8	0.7	82.6	6.4	0.0	6.2	0.2	100.0
8/16–8/22		Numbers	46	0	546	199	120	15,609	1,609	0	1,198	46	19,374
35	137	Percent	0.0	0.0	2.2	0.1	0.1	83.8	1.4	0.0	12.4	0.0	100.0
8/23–8/29		Numbers	0	0	1,197	42	83	43,396	854	0	6,787	0	52,359
36	165	Percent	0.0	0.0	1.7	0.1	0.2	86.8	0.7	0.0	10.4	0.1	100.0
8/30–9/05		Numbers	0	0	389	55	83	21,535	337	0	2,830	55	25,285
37	212	Percent	0.0	0.0	0.7	0.8	1.2	77.5	4.3	0.0	14.8	0.8	100.0
9/06–9/12		Numbers	0	0	171	311	467	25,491	1,712	0	5,368	311	33,832
38	0	Percent	0.0	0.0	0.5	0.9	1.4	75.0	5.2	0.0	16.0	0.9	100.0
9/13–9/19		Numbers	0	0	583	1,166	1,749	92,684	6,412	0	19,819	1,166	123,578
Total	1,252	Percent	0.1	0.0	1.4	1.0	1.0	76.6	6.7	0.0	12.5	0.6	100.0
		Numbers	328	119	4,539	3,156	3,122	240,961	21,168	2	39,281	1,930	314,605

Note: Samples were collected using a beach seine in the lagoon in late August and September. Karluk late-run escapement is summed after 21 July; however, samples from all of week 30 were utilized in the age composition estimates.

Table 14.—Length composition of Karluk Lake late-run sockeye salmon escapement samples by age and sex, 2012.

	Age									Total
	0.2	1.1	1.2	1.3	2.1	2.2	2.3	3.2	3.3	
<i>Females</i>										
Mean Length (mm)	—	—	494	543	—	514	539	526	530	517
SE	—	—	8	11	—	1	5	4	4	2
Range	—	—	445–560	468–580	—	402–588	413–590	412–565	518–536	402–590
Sample Size	0	0	18	10	0	569	44	60	4	705
<i>Males</i>										
Mean Length (mm)	462	341	520	565	374	529	567	543	541	528
SE	—	7	9	11	6	2	4	5	—	2
Range	—	326–359	463–550	502–620	311–421	378–600	430–634	454–595	—	311–634
Sample Size	1	4	9	10	21	387	67	44	1	544
<i>All Fish</i>										
Mean Length (mm)	462	341	503	554	374	520	556	533	532	522
SE	—	7	6	8	6	1	4	3	4	1
Range	—	326–359	445–560	468–620	311–421	378–600	413–634	412–595	518–541	311–634
Sample Size	1	4	27	20	21	956	111	104	5	1,249

Table 15.—Estimated age composition of Ayakulik River (Red Lake) early-run sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age											Total
			0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	3.3	
21 5/17–5/23	0	Percent	0.0	0.0	16.7	33.3	0.0	0.0	50.0	0.0	0.0	0.0	0.0	100.0
		Numbers	0	0	9	17	0	0	26	0	0	0	0	51
22 5/24–5/30	6	Percent	0.0	0.0	16.7	33.3	0.0	0.0	50.0	0.0	0.0	0.0	0.0	100.0
		Numbers	0	0	518	1,035	0	0	1,553	0	0	0	0	3,105
23 5/31–6/6	196	Percent	0.7	1.0	13.2	43.6	0.0	3.0	26.4	12.1	0.0	0.0	0.0	100.0
		Numbers	82	156	1,462	5,138	0	415	2,538	1,603	0	7	0	11,401
24 6/7–6/13	228	Percent	0.1	4.6	16.2	40.4	0.0	5.6	19.2	13.4	0.0	0.5	0.0	100.0
		Numbers	17	1,168	4,002	9,657	0	1,381	4,602	3,177	0	124	0	24,129
25 6/14–6/20	217	Percent	0.0	6.5	19.6	28.4	0.0	6.4	30.0	8.0	0.0	1.2	0.0	100.0
		Numbers	0	2,630	8,026	11,805	0	2,591	12,199	3,313	0	463	0	41,027
26 6/21–6/27	221	Percent	0.0	3.4	21.9	30.5	0.0	4.5	32.1	6.9	0.1	0.6	0.0	100.0
		Numbers	0	1,787	10,117	13,992	0	2,206	14,897	3,219	26	304	0	46,547
27 6/28–7/4	207	Percent	0.0	3.3	12.9	28.2	0.0	6.0	37.1	11.6	0.4	0.5	0.1	100.0
		Numbers	0	1,059	4,053	8,838	0	1,945	11,397	3,636	118	149	22	31,217
28 7/5–7/11	222	Percent	0.1	1.4	9.2	23.4	0.1	2.4	50.3	12.3	0.0	0.5	0.3	100.0
		Numbers	58	414	3,025	7,273	58	721	16,672	4,063	7	166	100	32,559
29 7/12–7/18	152	Percent	0.5	1.6	10.9	13.5	0.6	1.6	57.7	12.8	0.0	0.5	0.0	99.8
		Numbers	125	242	2,451	3,259	132	352	13,542	3,210	0	138	13	23,465
Total	1,449	Percent	0.1	3.5	15.8	28.6	0.1	4.5	36.3	10.4	0.1	0.6	0.1	100.0
		Numbers	283	7,457	33,661	61,015	191	9,612	77,425	22,221	151	1,350	136	213,501

Note: Ayakulik early-run escapement is summed through 15 July; however, samples from all of week 29 were utilized in the age composition estimates.

Table 16.—Length composition of Ayakulik River (Red Lake) early-run sockeye salmon escapement samples by age and sex, 2012.

	Age											Total
	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	3.3	
Females												
Mean Length (mm)	574	—	494	543	552	412	508	550	—	488	533	524
SE	21	—	3	2	—	—	2	3	—	8	—	3
Range	553–594	—	407–567	429–624	—	—	442–585	458–613	—	473–518	—	407–624
Sample Size	2	0	121	257	1	1	223	79	0	5	1	690
Males												
Mean Length (mm)	594	343	505	551	—	377	532	560	327	507	—	510
SE	—	5	3	2	—	3	2	3	—	33	—	3
Range	—	307–550	419–607	477–639	—	328–429	411–610	503–628	—	444–553	—	307–639
Sample Size	1	46	93	186	0	64	238	82	1	3	0	714
All Fish												
Mean Length (mm)	580	343	499	547	552	378	520	555	327	495	533	517
SE	14	5	2	1	—	3	1	2	—	12	—	2
Range	553–594	307–550	407–607	429–639	—	328–429	411–610	458–628	—	444–553	—	307–639
Sample Size	3	46	214	443	1	65	461	161	1	8	1	1,404

Table 17.—Estimated sex composition of Ayakulik River (Red Lake) sockeye salmon escapement by week, 2012.

Statistical Week	Dates	Sample Size		Total	Percent		Escapement		
		Females	Males		Females	Males	Number		Total
							Females	Males	
21	5/17-5/23	0	0	0	100.0	0.0	51	0	51
22	5/24-5/30	7	0	7	100.0	0.0	3,105	0	3,105
23	5/31-6/06	122	109	231	60.1	39.9	6,856	4,545	11,401
24	6/07-6/13	125	121	246	50.7	49.3	12,228	11,901	24,129
25	6/14-6/20	116	124	240	49.5	50.5	20,305	20,722	41,027
26	6/21-6/27	131	109	240	51.8	48.2	24,097	22,450	46,547
27	6/28-7/04	101	141	242	43.6	56.4	13,599	17,618	31,217
28	7/05-7/11	117	125	242	45.5	54.5	14,805	17,754	32,559
29	7/12-7/18	68	107	175	40.8	58.9	9,607	13,858	23,465
Early Run Total		787	836	1,623	49.0	51.0	104,653	108,848	213,501
29	7/12-7/18	68	107	175	0.1	0.1	22	32	54
30	7/19-7/25	131	117	248	50.1	49.9	8,241	8,220	16,461
31	7/26-8/01	114	127	241	49.4	50.6	9,353	9,587	18,940
32	8/02-8/08	135	106	241	57.2	42.8	14,804	11,080	25,884
33	8/09-8/15	142	98	240	60.0	40.0	17,098	11,402	28,500
34	8/16-8/22	154	86	240	62.3	37.7	3,982	2,405	6,387
35	8/23-8/29	129	111	240	54.9	45.1	7,882	6,477	14,359
36	8/30-9/5	68	52	120	56.7	43.3	2,362	1,806	4,168
Late Run Total		941	804	1,745	55.5	44.5	63,744	51,009	114,753

Note: Ayakulik early-run escapement is summed through 15 July and late-run escapement after 15 July; however, samples from all of week 29 were utilized for both early- and late-run sex composition estimates.

Table 18.—Estimated age composition of Ayakulik River (Red Lake) late-run sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age											Total
			0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	3.3	
29	152	Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
7/12–7/18		Numbers	0	1	6	8	0	1	31	7	0	0	0	54
30	214	Percent	0.0	3.9	11.0	13.6	0.4	1.7	62.0	7.2	0.0	0.2	0.0	100.0
7/19–7/25		Numbers	5	546	1,628	2,046	49	229	10,822	1,102	0	34	0	16,461
31	217	Percent	0.0	0.9	4.5	6.3	0.0	0.1	82.3	5.5	0.0	0.4	0.0	100.0
7/26–8/1		Numbers	0	162	872	1,228	1	4	15,591	995	0	86	0	18,940
32	220	Percent	0.0	0.5	2.5	3.2	0.0	0.1	87.2	6.0	0.0	0.5	0.0	100.0
8/2–8/8		Numbers	0	119	621	786	0	45	22,753	1,442	0	118	0	25,884
33	216	Percent	0.0	0.8	2.0	3.1	0.0	0.5	90.2	2.9	0.0	0.5	0.0	100.0
8/9–8/15		Numbers	0	239	570	879	0	151	25,689	840	0	132	0	28,500
34	215	Percent	0.0	1.8	2.0	3.9	0.0	0.8	88.3	2.7	0.1	0.5	0.0	100.0
8/16–8/22		Numbers	0	122	134	251	0	53	5,628	166	4	30	0	6,387
35	220	Percent	0.0	0.3	0.6	2.7	0.0	0.3	91.8	3.6	0.3	0.3	0.0	100.0
8/23–8/29		Numbers	0	57	103	411	0	50	13,115	528	46	48	0	14,359
36	108	Percent	0.0	0.0	0.0	1.9	0.0	0.0	95.4	2.8	0.0	0.0	0.0	100.0
8/30–9/5		Numbers	0	0	0	77	0	0	3,975	116	0	0	0	4,168
Total	1,562	Percent	0.0	1.1	3.4	5.0	0.0	0.5	85.1	4.5	0.0	0.4	0.0	100.0
		Numbers	5	1,245	3,933	5,686	50	534	97,605	5,197	49	449	0	114,753

Note: Ayakulik late-run escapement is summed after 15 July; however, samples from all of week 29 were utilized in the age composition estimates.

Table 19.—Length composition of Ayakulik River (Red Lake) late-run sockeye salmon escapement samples by age and sex, 2012.

	Age								Total
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.2	
Females									
Mean Length (mm)	—	505	542	539	—	519	555	522	522
SE	—	6	3	—	—	1	3	—	2
Range	—	404–550	457–595	—	—	417–590	505–590	—	404–595
Sample Size	0	36	62	1	0	664	40	1	804
Males									
Mean Length (mm)	343	526	571	—	383	542	568	555	535
SE	4	8	6	—	8	1	8	10	2
Range	295–378	445–606	521–628	—	348–437	346–610	404–643	532–581	295–643
Sample Size	22	24	28	0	10	530	31	4	649
All Fish									
Mean Length (mm)	343	513	551	539	383	529	561	548	528
SE	4	5	3	—	8	1	4	10	1
Range	295–378	404–606	457–628	—	348–437	346–610	404–643	522–581	295–643
Sample Size	22	60	90	1	10	1,194	71	5	1,453

Table 20.—Estimated age composition of South Olga Lakes (Upper Station) early-run sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age													Total
			0.1	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	
21	144	Percent	0.0	0.0	0.0	0.0	20.3	2.8	0.0	2.1	48.6	26.3	0.0	0.0	0.0	100.0
5/17–5/23		Numbers	0	0	0	0	2	0	0	0	4	2	0	0	0	9
22	0	Percent	0.0	0.0	0.0	0.0	22.8	2.6	0.0	2.4	47.5	24.6	0.0	0.0	0.2	100.0
5/24–5/30		Numbers	0	0	0	0	242	27	0	25	493	253	0	0	2	1,042
23	218	Percent	0.0	0.0	0.0	0.0	26.2	2.2	0.0	2.9	47.0	21.3	0.0	0.0	0.4	100.0
5/31–6/06		Numbers	0	0	0	0	1,542	124	0	170	2,756	1,234	0	0	25	5,851
24	222	Percent	0.0	0.0	0.0	0.1	25.4	1.2	0.0	4.5	53.7	14.5	0.0	0.0	0.5	100.0
6/07–6/13		Numbers	0	0	0	3	2,068	97	0	345	4,255	1,200	0	0	40	8,008
25	216	Percent	0.0	0.0	0.0	0.6	16.3	1.8	0.0	8.7	61.0	10.7	0.0	0.0	0.9	100.0
6/14–6/20		Numbers	0	0	0	27	655	81	0	381	2,582	435	0	0	38	4,199
26	217	Percent	0.0	0.0	0.0	1.8	17.2	2.5	0.0	10.0	58.9	8.8	0.0	0.0	0.8	100.0
6/21–6/27		Numbers	0	0	0	64	601	87	0	348	2,050	310	0	0	28	3,487
27	218	Percent	0.0	0.1	0.0	2.6	17.4	1.9	0.0	9.3	53.6	15.0	0.0	0.0	0.1	100.0
6/28–7/04		Numbers	0	1	0	45	300	32	0	162	923	257	0	0	2	1,723
28	221	Percent	0.0	0.4	0.0	2.6	14.7	4.3	0.1	6.9	54.9	16.1	0.1	0.0	0.0	100.0
7/05–7/11		Numbers	0	4	0	24	136	42	1	63	511	149	1	0	0	931
29	166	Percent	0.0	0.2	0.0	0.4	3.2	1.6	0.1	1.1	11.4	2.9	0.1	0.0	0.0	20.9
7/12–7/18		Numbers	0	3	0	4	35	18	1	11	134	29	1	0	1	237
Total	1,622	Percent	0.0	0.0	0.0	0.7	21.9	2.0	0.0	5.9	53.8	15.2	0.0	0.0	0.5	100.0
		Numbers	0	7	0	167	5,582	507	2	1,505	13,709	3,869	2	0	135	25,487

Note: Upper Station early-run escapement is summed through 15 July; however, samples from all of week 29 were utilized in the age composition estimates.

Table 21.—Length composition of South Olga Lakes (Upper Station) early-run sockeye salmon escapement samples by week, 2012.

	Age								Total
	0.2	1.1	1.2	1.3	2.1	2.2	2.3	3.2	
<i>Females</i>									
Mean Length (mm)	—	—	485	539	361	500	539	478	505
SE	—	—	2	6	—	1	2	12	2
Range	—	—	422–568	452–596	—	404–584	459–612	458–510	361–612
Sample Size	0	0	179	27	1	514	149	4	874
<i>Males</i>									
Mean Length (mm)	536	325	499	561	361	516	547	510	488
SE	—	3	3	9	2	2	3	33	3
Range	—	297–350	416–571	516–595	310–418	416–604	461–621	477–542	297–621
Sample Size	1	19	116	8	101	312	87	2	646
<i>All Fish</i>									
Mean Length (mm)	536	325	491	544	361	506	542	489	497
SE	—	3	2	6	2	1	2	13	1
Range	—	297–350	416–571	452–596	310–418	404–604	459–621	458–542	297–621
Sample Size	1	19	295	35	102	826	236	6	1,520

Table 22.—Estimated sex composition of South Olga Lakes (Upper Station) sockeye salmon escapement by week, 2012.

Statistical Week	Dates	Sample Size		Total	Escapement				
					Percent		Number		
		Females	Males		Females	Males	Females	Males	Total
21	5/17–5/23	104	58	162	64.1	35.9	6	3	9
22	5/24–5/30	0	0	0	61.7	38.3	643	399	1,042
23	5/31–6/06	146	101	247	59.1	40.9	3,458	2,393	5,851
24	6/07–6/13	137	102	239	57.3	42.7	4,591	3,417	8,008
25	6/14–6/20	130	110	240	53.7	46.3	2,253	1,946	4,199
26	6/21–6/27	119	121	240	51.1	48.9	1,783	1,704	3,487
27	6/28–7/04	138	102	240	56.8	43.2	978	745	1,723
28	7/05–7/11	146	94	240	60.5	39.5	563	368	931
29	7/12–7/18	118	72	190	13.1	7.8	148	89	237
Early Run Total		1,038	760	1,798	56.6	43.4	14,424	11,063	25,487
29	7/12–7/18	118	72	190	49.5	29.6	560	335	895
30	7/19–7/25	126	68	194	61.6	38.4	1,172	730	1,902
31	7/26–8/01	97	93	190	52.1	47.9	4,237	3,901	8,138
32	8/02–8/08	187	150	337	54.4	45.6	6,526	5,475	12,001
33	8/09–8/15	133	121	254	53.6	46.4	9,643	8,347	17,990
34	8/16–8/22	143	97	240	59.8	40.2	24,304	16,344	40,648
35	8/23–8/29	151	89	240	62.8	37.2	28,631	16,979	45,610
36	8/30–9/05	119	68	187	63.5	36.5	7,538	4,334	11,872
37	9/06–9/12	162	95	257	63.1	36.9	5,832	3,406	9,238
38	9/13–9/19	0	0	0	63.0	37.0	650	381	1,031
Late Run Total		1,236	853	2,089	59.7	40.3	89,094	60,231	149,325

Note: Upper Station early-run escapement is summed through 15 July and late-run escapement after 15 July; however, samples from all of week 29 were utilized for both early- and late-run sex composition estimates.

Table 23.—Estimated age composition of South Olga Lakes (Upper Station) late-run sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age													Total
			0.1	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	
29	166	Percent	0.0	0.6	0.0	1.5	12.0	6.2	0.4	4.0	43.0	11.1	0.4	0.0	0.1	79.1
7/12–7/18		Numbers	0	10	1	15	133	68	4	41	507	111	4	0	2	895
30	171	Percent	0.0	2.5	0.4	0.8	14.0	5.3	0.1	2.9	67.6	5.5	0.1	0.0	0.9	100.0
7/19–7/25		Numbers	0	50	8	12	279	96	0	46	1,312	80	0	0	19	1,902
31	167	Percent	0.0	1.9	0.1	0.7	21.2	6.9	0.0	1.2	63.4	3.8	0.0	0.0	0.8	100.0
7/26–8/01		Numbers	6	133	0	68	1,842	563	0	105	5,043	314	0	0	63	8,138
32	289	Percent	0.3	1.2	0.0	1.6	23.8	4.4	0.0	3.7	59.5	4.3	0.0	0.0	1.2	100.0
8/02–8/08		Numbers	27	166	15	263	2,739	392	0	674	7,137	428	0	0	158	12,001
33	240	Percent	0.0	1.7	0.3	2.7	19.8	2.3	0.0	8.3	61.7	1.7	0.0	0.0	1.5	100.0
8/09–8/15		Numbers	21	304	48	487	3,765	440	0	1,396	10,887	402	0	0	240	17,990
34	219	Percent	0.0	0.7	0.1	0.5	18.4	3.4	0.0	4.3	67.5	2.5	0.0	0.0	2.7	100.0
8/16–8/22		Numbers	0	225	10	116	7,513	1,397	0	1,567	27,644	1,029	0	0	1,147	40,648
35	220	Percent	0.0	0.7	0.0	0.6	19.5	1.8	0.0	4.0	68.5	1.3	0.0	0.0	3.6	100.0
8/23–8/29		Numbers	0	297	0	241	8,984	825	0	1,734	31,354	551	0	0	1,624	45,610
36	168	Percent	0.0	1.4	0.0	1.1	17.2	2.5	0.0	8.3	62.3	3.7	0.0	0.1	3.5	100.0
8/30–9/05		Numbers	0	178	0	128	1,968	307	0	1,002	7,427	439	0	5	418	11,872
37	233	Percent	0.0	0.5	0.0	0.9	28.5	1.0	0.0	6.3	55.9	3.5	0.0	0.4	3.0	100.0
9/06–9/12		Numbers	0	60	0	84	2,511	110	0	607	5,219	328	0	33	286	9,238
38	0	Percent	0.0	0.4	0.0	0.9	29.6	0.9	0.0	6.0	55.4	3.4	0.0	0.4	3.0	100.0
9/13–9/19		Numbers	0	4	0	9	305	9	0	62	571	35	0	4	31	1,031
Total	1,873	Percent	0.0	1.0	0.1	1.0	20.1	2.8	0.0	4.8	65.0	2.5	0.0	0.0	2.7	100.0
		Numbers	54	1,427	83	1,423	30,039	4,208	4	7,234	97,101	3,717	4	43	3,988	149,325

Note: Upper Station late-run escapement is summed after 15 July; however, samples from all of week 29 were utilized in the age composition estimates.

Table 24.—Length composition of South Olga Lakes (Upper Station) late-run sockeye salmon escapement samples by week, 2012.

	Age													Total
	0.1	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	
Females														
Mean Length (mm)	—	489	474	—	514	544	566	—	527	559	—	—	524	526
SE	—	7	—	—	2	4	—	—	1	4	—	—	4	2
Range	—	432–540	—	—	422–596	455–603	—	—	429–600	504–630	—	—	474–563	422–630
Sample Size	0	17	1	0	220	44	1	0	718	49	0	0	23	1,073
Males														
Mean Length (mm)	288	510	514	359	532	562	—	391	550	553	561	446	549	521
SE	—	20	—	11	4	5	—	4	2	12	—	—	7	3
Range	—	451–582	—	313–556	400–610	514–593	—	304–589	404–635	445–620	—	—	502–606	288–635
Sample Size	1	6	1	21	150	22	0	87	413	18	1	1	14	735
All Fish														
Mean Length (mm)	288	494	494	359	521	550	566	391	536	558	561	446	533	524
SE	—	7	20	11	2	3	—	4	1	5	—	—	4	1
Range	—	432–582	474–514	313–556	400–610	455–603	—	304–589	404–635	445–630	—	—	474–606	288–635
Sample Size	1	23	2	21	370	66	1	87	1,131	67	1	1	37	1,808

Table 25.—Estimated age composition of Frazer Lake sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age										Total
			0.2	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.2	3.3	
24	0	Percent	0.0	1.0	4.0	5.1	0.0	48.5	40.4	0.0	1.0	0.0	100.0
6/7–6/13		Numbers	0	0	1	1	0	12	10	0	0	0	24
25	37	Percent	0.0	0.9	4.4	5.0	0.0	48.8	39.9	0.0	0.9	0.0	100.0
6/14–6/20		Numbers	0	5	26	26	0	259	207	0	5	0	528
26	140	Percent	0.0	0.2	9.2	3.7	0.5	52.3	33.5	0.0	0.2	0.3	100.0
6/21–6/27		Numbers	0	0	1,478	456	127	7,507	4,456	0	0	47	14,071
27	244	Percent	0.0	0.0	12.0	2.6	1.7	52.5	30.8	0.0	0.3	0.0	100.0
6/28–7/04		Numbers	0	0	4,574	1,060	747	21,585	12,695	0	70	25	40,755
28	306	Percent	0.0	0.0	16.9	2.9	0.3	50.0	28.1	0.1	1.9	0.0	100.0
7/05–7/11		Numbers	0	0	4,792	817	78	14,090	7,950	18	517	0	28,264
29	114	Percent	0.0	0.0	13.6	2.1	0.9	54.4	25.2	0.3	3.4	0.0	100.0
7/12–7/18		Numbers	0	0	4,230	670	291	16,493	7,590	86	1,008	20	30,387
30	207	Percent	0.1	0.0	14.5	3.1	2.1	58.7	18.0	0.1	3.1	0.3	100.0
7/19–7/25		Numbers	22	0	2,304	446	322	9,292	2,736	8	448	36	15,616
31	204	Percent	0.4	0.0	15.4	1.9	3.1	61.7	15.5	0.0	2.0	0.0	100.0
7/26–8/01		Numbers	27	0	959	123	209	3,860	990	0	127	3	6,297
32	218	Percent	0.4	0.1	14.6	1.4	7.3	57.0	17.4	0.0	1.7	0.0	100.0
8/02–8/08		Numbers	29	2	893	91	539	3,677	1,206	0	120	0	6,556
33	217	Percent	0.0	0.3	18.6	1.4	6.6	55.9	15.6	0.0	1.5	0.0	100.0
8/09–8/15		Numbers	0	18	939	65	303	2,738	720	0	65	0	4,849
34	199	Percent	0.0	0.0	12.8	2.7	9.6	48.9	23.2	0.0	2.7	0.0	100.0
8/16–8/22		Numbers	0	0	197	42	147	752	357	0	42	0	1,537
Total	2,251	Percent	0.1	0.0	13.7	2.5	1.9	53.9	26.1	0.1	1.6	0.1	100.0
		Numbers	79	25	20,393	3,795	2,763	80,265	38,918	113	2,402	130	148,884

Table 26.—Length composition of Frazer Lake sockeye salmon escapement samples by age and sex, 2012.

	Age										Total
	0.2	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.2	3.3	
Females											
Mean Length (mm)	493	—	490	533	—	493	539	529	489	522	505
SE	18	—	2	6	—	1	1	—	5	4	2
Range	475–510	—	408–570	451–588	—	415–598	438–611	—	448–545	518–526	408–611
Sample Size	2	0	177	33	0	735	314	1	22	2	1,286
Males											
Mean Length (mm)	—	291	488	557	344	490	557	—	493	—	494
SE	—	6	4	3	3	2	2	—	11	—	2
Range	—	285–296	400–564	519–578	308–407	403–590	456–619	—	431–535	—	285–619
Sample Size	0	2	101	17	54	357	156	0	12	0	699
All Fish											
Mean Length (mm)	493	291	489	541	344	492	545	529	490	522	501
SE	18	6	2	4	3	1	1	—	5	4	1
Range	475–510	285–296	400–570	451–588	308–407	403–598	438–619	—	431–545	518–526	285–619
Sample Size	2	2	278	50	54	1,092	470	1	34	2	1,985

Table 27.—Estimated sex composition of Frazer Lake sockeye salmon escapement by week, 2012.

Statistical Week	Dates	Sample Size			Escapement				
		Females	Males	Total	Percent		Number		
					Females	Males	Females	Males	Total
24	6/7–6/13	0	0	0	52.1	47.9	13	11	24
25	6/14–6/20	61	56	117	52.0	48.0	274	254	528
26	6/21–6/27	127	123	250	50.9	49.1	7,164	6,907	14,071
27	6/28–7/04	123	117	240	52.8	47.2	21,512	19,243	40,755
28	7/05–7/11	185	95	280	66.0	34.0	18,653	9,611	28,264
29	7/12–7/18	200	80	280	70.4	29.6	21,388	8,999	30,387
30	7/19–7/25	196	84	280	72.3	27.7	11,297	4,319	15,616
31	7/26–8/01	185	55	240	73.6	26.4	4,632	1,665	6,297
32	8/02–8/08	153	87	240	64.4	35.6	4,219	2,337	6,556
33	8/09–8/15	174	66	240	73.3	26.7	3,554	1,295	4,849
34	8/16–8/22	62	18	80	77.3	22.7	1,189	348	1,537
Total		1,466	781	2,247	63.1	36.9	93,895	54,989	148,884

Table 28.—Estimated age composition of Sallery Lake sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age									Total
			0.2	0.3	1.1	1.2	1.3	1.4	2.2	2.3	2.4	
26	65	Percent	0.0	2.7	0.0	1.2	77.7	0.0	2.2	16.2	0.0	100.0
6/21–6/27		Numbers	0	89	0	52	2,641	0	83	562	0	3,427
27	0	Percent	0.0	1.0	0.0	6.5	67.3	0.0	5.4	19.8	0.0	100.0
6/28–7/04		Numbers	0	27	0	167	1,748	0	139	512	0	2,593
28	41	Percent	0.0	0.0	0.0	9.4	54.2	0.5	10.7	25.0	0.2	100.0
7/05–7/11		Numbers	0	0	0	181	1,039	10	209	486	5	1,930
29	138	Percent	0.1	0.0	0.1	9.4	38.5	1.2	18.2	31.7	0.8	100.0
7/12–7/18		Numbers	4	0	4	444	1,822	60	859	1,497	36	4,725
30	169	Percent	0.4	0.0	0.6	12.0	24.2	0.7	24.5	36.4	1.1	100.0
7/19–7/25		Numbers	29	0	40	782	1,613	45	1,604	2,387	71	6,571
31	101	Percent	0.1	0.0	1.4	8.5	18.5	0.1	29.5	41.2	0.8	100.0
7/26–8/01		Numbers	2	0	61	357	789	2	1,266	1,762	33	4,271
32	36	Percent	0.0	0.0	0.0	5.6	14.0	0.0	30.5	49.7	0.0	100.0
8/02–8/08		Numbers	0	0	1	201	501	0	1,094	1,784	1	3,583
33	0	Percent	0.0	0.0	0.0	5.6	13.9	0.0	30.6	50.0	0.0	100.0
8/09–8/15		Numbers	0	0	0	5	12	0	27	44	0	88
Total	550	Percent	0.1	0.4	0.4	8.0	37.4	0.4	19.4	33.2	0.5	100.0
		Numbers	34	116	106	2,188	10,165	116	5,282	9,034	146	27,188

Table 29.—Length composition of Saltery Lake sockeye salmon escapement samples by age and sex, 2012.

	Age									Total
	0.2	0.3	1.1	1.2	1.3	1.4	2.2	2.3	2.4	
Females										
Mean Length (mm)	478	539	—	480	553	565	493	541	527	533
SE	—	—	—	4	2	—	4	2	2	3
Range	—	—	—	427–517	496–605	—	461–594	487–590	525–528	427–605
Sample Size	1	1	0	20	101	1	43	90	2	259
Males										
Mean Length (mm)	—	580	324	513	579	613	510	577	549	553
SE	—	—	8	5	3	2	4	3	14	3
Range	—	—	308–334	440–547	496–639	611–614	425–593	492–624	535–563	308–639
Sample Size	0	1	3	29	93	2	69	92	2	291
All Fish										
Mean Length (mm)	478	560	324	499	566	597	503	559	538	543
SE	—	21	8	4	2	16	3	2	9	2
Range	—	539–580	308–334	427–547	496–639	565–614	425–594	487–624	525–563	308–639
Sample Size	1	2	3	49	194	3	112	182	4	550

Table 30.—Estimated sex composition of Sallery Lake sockeye salmon escapement by week, 2012.

Statistical Week	Dates	Sample Size		Total	Escapement				
		Females	Males		Percent		Number		
					Females	Males	Females	Males	Total
26	6/21–6/27	38	42	80	46.9	53.1	1,608	1,819	3,427
27	6/28–7/04	0	0	0	43.8	56.2	1,137	1,456	2,593
28	7/05–7/11	21	30	51	41.1	58.9	793	1,137	1,930
29	7/12–7/18	65	95	160	42.2	57.8	1,994	2,731	4,725
30	7/19–7/25	102	98	200	49.5	50.5	3,251	3,320	6,571
31	7/26–8/01	65	55	120	54.8	45.2	2,339	1,932	4,271
32	8/02–8/08	23	17	40	57.4	42.6	2,058	1,525	3,583
33	8/09–8/15	0	0	0	57.5	42.5	51	37	88
Total		314	337	651	48.7	51.3	13,230	13,958	27,188

Table 31.—Estimated age composition of Pasagshak River sockeye salmon escapement by week, 2012.

Statistical Week	Sample Size		Age								Total
			0.2	0.3	1.1	1.2	1.3	2.1	2.2	2.3	
24	0	Percent	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
6/7–6/13		Numbers	0	0	0	0	6	0	0	0	6
25	0	Percent	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
6/14–6/20		Numbers	0	0	0	0	138	0	0	0	138
26	1	Percent	0.0	2.0	0.0	0.7	97.3	0.0	0.0	0.0	100.0
6/21–6/27		Numbers	0	19	0	6	473	0	0	0	499
27	7	Percent	0.0	28.6	0.0	9.5	61.9	0.0	0.0	0.0	100.0
6/28–7/04		Numbers	0	64	0	21	132	0	0	0	217
28	22	Percent	26.6	22.6	0.0	13.5	36.5	0.0	0.8	0.0	100.0
7/05–7/11		Numbers	334	241	0	151	387	0	8	0	1,121
29	31	Percent	10.3	16.4	0.0	12.6	58.2	0.0	2.5	0.0	100.0
7/12–7/18		Numbers	61	97	0	76	384	0	13	0	631
30	69	Percent	14.8	12.9	0.0	10.8	61.2	0.0	0.4	0.0	100.0
7/19–7/25		Numbers	99	95	0	80	439	0	6	0	720
31	38	Percent	24.5	8.6	0.1	13.0	53.4	0.1	0.0	0.3	100.0
7/26–8/01		Numbers	197	61	1	102	400	1	0	2	764
32	46	Percent	29.6	5.1	1.7	18.3	40.2	1.7	0.0	3.5	100.0
8/02–8/08		Numbers	117	24	5	69	179	5	0	10	409
33	0	Percent	30.4	4.3	2.2	19.6	37.0	2.2	0.0	4.3	100.0
8/09–8/15		Numbers	24	3	2	16	30	2	0	3	80
Total	214	Percent	18.2	13.2	0.2	11.4	56.0	0.2	0.6	0.3	100.0
		Numbers	833	604	8	521	2,568	8	27	16	4,585

Table 32.—Length composition of Pasagshak River sockeye salmon escapement samples by age and sex, 2012.

	Age							Total	
	0.2	0.3	1.1	1.2	1.3	2.1	2.2		2.3
Females									
Mean Length (mm)	470	525	—	488	536	—	471	—	514
SE	8	5	—	9	3	—	—	—	5
Range	411–580	489–557	—	412–559	452–576	—	—	—	411–580
Sample Size	21	17	0	18	57	0	1	0	114
Males									
Mean Length (mm)	511	577	339	530	564	344	—	601	546
SE	9	9	—	15	4	—	—	23	5
Range	438–592	532–609	—	452–598	452–615	—	—	578–624	339–624
Sample Size	23	9	1	11	52	1	0	2	99
All Fish									
Mean Length (mm)	491	543	339	504	549	344	471	601	529
SE	7	7	—	9	3	—	—	23	3
Range	411–592	489–609	—	412–598	452–615	—	—	578–624	339–624
Sample Size	44	26	1	29	109	1	1	2	213

Table 33.—Estimated sex composition of Pasagshak River sockeye salmon escapement by week, 2012.

Statistical Week	Dates	Sample Size		Total	Escapement				
		Females	Males		Percent		Number		
					Females	Males	Females	Males	Total
24	6/7–6/13	0	0	0	0.0	100.0	0	6	6
25	6/14–6/20	0	0	0	0.0	100.0	0	138	138
26	6/21–6/27	0	1	1	3.0	97.0	15	484	499
27	6/28–7/04	3	6	9	22.8	77.2	49	168	217
28	7/05–7/11	12	13	25	48.6	51.4	545	576	1,121
29	7/12–7/18	20	20	40	52.4	47.6	330	301	631
30	7/19–7/25	49	36	85	55.0	45.0	396	324	720
31	7/26–8/01	23	22	45	51.3	48.7	392	372	764
32	8/02–8/08	26	30	56	48.4	51.6	198	211	409
33	8/09–8/15	0	0	0	46.4	53.6	37	43	80
Total		133	128	261	42.8	57.2	1,963	2,622	4,585

Table 34.–Kodiak sockeye salmon escapement age-2.2 average length by year, system 1985 to 2012.

Year	System									
	Karluk Early	Karluk Late	Ayakulik Early	Ayakulik Late	Upper Stn Early	Upper Stn Late	Frazer	Afognak	Saltery	Pasagshak
1985	518	538	517	539	530	529	502	467	501	–
1986	519	555	519	–	509	567	505	474	542	–
1987	517	531	518	530	529	567	505	485	499	–
1988	504	532	514	545	520	563	508	477	479	–
1989	510	530	538	543	515	551	506	483	528	–
1990	506	537	519	530	486	527	504	478	494	–
1991	507	522	520	545	498	535	506	460	–	–
1992	482	516	514	535	488	518	499	457	–	–
1993	505	521	540	560	505	541	497	480	517	–
1994	481	512	505	523	480	522	482	464	481	–
1995	503	537	530	542	509	543	513	485	514	–
1996	517	548	530	543	517	563	526	473	530	–
1997	504	504	507	498	510	530	512	466	–	–
1998	486	512	485	529	477	523	490	453	–	–
1999	509	528	533	537	517	539	515	492	–	–
2000	502	523	503	535	509	564	505	479	–	–
2001	518	535	510	524	505	558	521	473	521	–
2002	501	535	530	536	523	551	515	480	516	–
2003	511	534	519	539	501	544	501	487	507	–
2004	491	529	512	532	499	544	508	465	–	–
2005	487	508	493	509	488	529	486	473	–	–
2006	475	488	489	513	497	526	516	472	–	–
2007	491	500	518	518	505	546	494	498	–	–
2008	479	507	507	519	502	554	490	480	502	–
2009	500	514	513	509	520	559	527	495	511	–
2010	479	526	497	519	492	541	506	457	524	–
2011	506	530	522	546	510	545	503	490	512	468
2012	495	520	520	529	506	536	492	484	503	471
1985–2011 Avg.	500	524	515	531	505	544	505	476	510	–

Note: Lengths are measured in mm from mid eye to tail fork.

Table 35.–Kodiak sockeye salmon escapement age-2.3 average length by year, system 1985 to 2012.

Year	System									
	Karluk Early	Karluk Late	Ayakulik Early	Ayakulik Late	Upper Stn Early	Upper Stn Late	Frazer	Afognak	Saltery	Pasagshak
1985	555	580	551	580	556	585	538	526	555	–
1986	552	598	555	–	563	588	555	536	568	–
1987	562	576	562	581	567	584	572	551	575	–
1988	569	582	557	589	567	610	553	525	555	–
1989	562	578	564	575	561	572	565	502	564	–
1990	553	571	562	572	542	578	558	534	536	–
1991	549	555	556	580	545	541	574	523	–	–
1992	535	551	560	570	533	562	534	522	–	–
1993	539	556	570	612	539	573	543	531	576	–
1994	524	549	544	578	518	560	541	521	554	–
1995	541	551	561	574	546	551	549	533	557	–
1996	568	581	561	584	556	591	571	551	589	–
1997	563	556	548	539	551	539	569	533	–	–
1998	531	552	523	550	518	549	546	511	–	–
1999	538	542	551	578	537	555	548	533	–	–
2000	551	563	551	580	546	592	557	549	–	–
2001	560	574	552	564	557	591	568	563	581	–
2002	558	587	554	576	554	580	569	526	586	–
2003	547	567	569	583	534	565	561	536	556	–
2004	537	576	550	568	541	583	562	543	–	–
2005	532	541	527	524	539	565	545	532	–	–
2006	527	541	523	549	535	545	544	524	–	–
2007	541	549	540	548	546	549	554	558	–	–
2008	536	552	529	547	518	583	536	552	561	–
2009	543	543	545	539	550	576	563	545	571	–
2010	534	548	524	552	533	563	544	516	574	–
2011	554	551	556	572	544	572	561	541	561	583
2012	541	556	555	561	542	558	545	528	559	601
1985–2011 Avg.	547	562	550	568	544	570	555	534	566	–

Note: Lengths are measured in mm from mid eye to tail fork.

Table 36.—Age composition of Kitoi Bay hatchery chum salmon broodstock samples by week, 2012.

Statistical Week	Sample Size		Age				Total
			0.2	0.3	0.4	0.5	
29 7/12–7/18	76	Percent	0.0	38.2	61.8	0.0	100.0
		Numbers	0	29	47	0	76
30 7/19–7/25	221	Percent	0.9	62.4	36.2	0.5	100.0
		Numbers	2	138	80	1	221
31 7/26–8/01	327	Percent	3.4	77.1	19.6	0.0	100.0
		Numbers	11	252	64	0	327
Total	624	Percent	2.1	67.1	30.6	0.2	100.0
		Numbers	13	419	191	1	624

Table 37.–Length composition of Kitoi Bay hatchery chum salmon broodstock samples by age and sex, 2012.

	Age				Total
	0.2	0.3	0.4	0.5	
Females					
Mean Length (mm)	547	581	588	–	583
SE	9	2	3	–	2
Range	531–566	479–671	510–674	–	479–674
Sample Size	4	211	103	0	318
Males					
Mean Length (mm)	529	596	624	663	602
SE	7	3	4	–	2
Range	496–556	505–695	535–695	–	496–695
Sample Size	9	208	88	1	306
All Fish					
Mean Length (mm)	534	589	604	663	592
SE	6	2	3	–	1
Range	496–566	479–695	510–695	–	479–695
Sample Size	13	419	191	1	624

Table 38.—Kodiak Management Area commercial salmon harvest by species and year, 1970 through 2012.

Year	Species ^a					Total
	Chinook	Sockeye	Coho	Pink	Chum	
1970	1,089	917,047	66,424	12,036,598	919,972	13,941,130
1971	920	478,479	22,844	4,334,492	1,541,444	6,378,183
1972	1,300	222,408	16,587	2,478,064	1,163,426	3,881,785
1973	800	167,341	3,573	511,708	317,921	1,001,343
1974	545	418,761	13,631	2,647,244	249,294	3,329,475
1975	101	136,418	23,659	2,942,801	84,431	3,187,410
1976	766	641,484	23,714	11,077,992	740,495	12,484,451
1977	585	623,468	27,920	6,252,405	1,072,313	7,976,691
1978	3,228	1,071,782	48,795	15,004,065	814,345	16,942,215
1979	1,907	630,756	140,629	11,285,809	358,336	12,417,437
1980	529	651,394	139,154	17,290,615	1,075,557	19,157,249
1981	1,418	1,288,980	121,544	10,336,829	1,345,328	13,094,099
1982	1,214	1,203,787	344,823	8,089,780	1,262,587	10,902,191
1983	3,839	1,231,989	157,612	4,603,371	1,085,165	7,081,976
1984	4,657	1,950,639	229,524	10,844,293	649,092	13,678,205
1985	4,970	1,842,731	284,166	7,334,825	430,757	9,897,449
1986	4,381	3,188,046	168,690	11,807,727	1,134,372	16,303,216
1987	4,613	1,794,773	192,540	5,075,101	682,023	7,749,050
1988	22,374	2,699,014	303,298	14,559,038	1,426,410	19,010,134
1989 ^b	106	1,289,511	2,599	183,235	19,972	1,495,423
1990	18,808	5,248,400	293,819	5,983,812	577,750	12,122,589
1991	22,234	5,704,100	324,860	16,642,841	1,029,071	23,723,106
1992	24,299	4,167,871	280,085	3,310,644	679,559	8,462,458
1993	41,029	4,378,886	313,467	34,019,420	588,331	39,341,133
1994	22,576	2,877,999	296,311	8,162,564	738,856	12,098,306
1995	18,704	4,488,502	307,795	42,849,309	1,522,810	49,187,120
1996	13,071	4,970,362	201,836	3,486,930	543,751	9,215,950
1997	18,735	2,506,427	381,099	11,035,134	520,331	14,461,726
1998	17,349	3,623,712	425,152	22,062,465	316,115	26,444,793
1999	18,299	4,653,057	296,979	11,898,382	913,867	17,780,584
2000	12,293	2,906,441	333,052	9,927,397	1,194,448	14,373,631
2001	23,843	2,659,637	409,193	19,567,163	1,053,763	23,713,599
2002	19,320	1,831,014	503,615	18,328,638	650,178	21,332,765
2003	18,603	4,053,847	351,767	14,067,235	1,151,885	19,643,337
2004	28,907	4,169,565	490,161	21,440,905	1,121,873	27,251,411
2005	14,465	3,052,048	396,841	30,143,647	477,435	34,084,436
2006	20,383	1,585,630	556,310	31,694,492	1,082,132	34,938,947
2007	17,248	2,014,141	356,583	24,811,459	728,920	27,928,351
2008	17,252	1,821,629	301,460	8,788,476	908,030	11,836,847
2009	7,268	1,727,776	291,470	27,649,826	955,814	30,632,154
2010	14,710	1,439,535	269,407	8,871,063	734,901	11,329,616
2011	18,615	2,269,302	190,483	16,648,792	824,562	19,951,754
2012	14,980	2,237,903	210,350	16,874,583	866,376	20,204,192
Average						
2007–2011	15,019	1,854,477	281,881	17,353,923	830,445	20,335,744
2002–2011	17,677	2,396,449	370,810	20,244,453	863,573	23,892,962

^a Catch numbers include personal use with commercial gear and ADF&G test fisheries.

^b Actual harvest numbers for 1989 are shown above. For the projected harvest if the *Exxon Valdez* oil spill had not eliminated a major portion of the commercial fishery consult Barrett et al. 1990.

Table 39.—Commercial salmon catch numbers by species, district, and section, Kodiak Management Area, 2012.

District	Section	Species									
		Chinook		Sockeye		Coho		Pink		Chum	
		Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Afognak District											
S.W.AFOGNAK & RASPBERRY STRAITS SECTIONS											
(251-10,11,12,20)		830	6,465	50,906	270,966	9,151	64,999	843,507	2,865,892	27,929	235,121
	Personal use of commercial catch	2	22	60	308	0	0	0	0	0	0
N.W. AFOGNAK SECTION											
(251-30,40,41,50)		45	418	50,920	258,757	1,681	11,544	252,815	844,418	8,788	69,481
	Personal use of commercial catch	5	53	0	0	0	0	0	0	0	0
SHUYAK ISLAND SECTION											
(251-60,70,81)		0	0	0	0	0	0	0	0	0	0
PERENOSA & PAULS BAYS SECTIONS COMBINED											
(251-82,83,84,85)		34	277	27,308	134,240	3,429	24,530	273,994	966,706	2,150	17,178
	Personal use of commercial catch	1	47	0	0	0	0	0	0	0	0
N.E.AFOGNAK SECTION											
(251-90, 252-10,20)		120	891	7,195	39,793	3,594	25,864	603,097	2,010,761	5,582	43,694
	Personal use of commercial catch	4	40	0	0	0	0	0	0	0	0
DUCK, IZHUT, & KITOI BAYS SECTIONS COMBINED											
(252-30,31,32,35)		2,674	18,500	111,933	605,177	48,353	334,074	2,968,070	10,318,804	218,740	1,647,790
	Personal use of commercial catch	18	146	413	2,429	1,414	9,086	617	2,032	0	0
S.E.AFOGNAK											
(252-33,34)		55	258	7,185	37,110	6,122	43,354	682,364	2,408,730	1,885	14,322
	Personal use of commercial catch	1	10	0	0	0	0	0	0	0	0
Subtotal		3,789	27,127	255,920	1,348,780	73,744	513,451	5,624,464	19,417,343	265,074	2,027,586
Northwest Kodiak District											
UGANIK, TERROR, VIEKODA, & KUPREANOF AREAS COMBINED											
(253-11,12,13,14,31-35)		1,421	11,299	234,577	1,351,282	49,676	327,115	3,060,063	11,354,107	79,201	610,452
	Personal use of commercial catch	40	489	254	1,478	402	2,507	250	1,000	7	56
UYAK, SPIRIDON, & ZACHAR, AREAS COMBINED											
(254-10,20,21,30,31,40,41)		1,501	13,001	287,221	1,575,632	39,323	293,507	3,458,197	12,746,204	173,399	1,451,323
	Personal use of commercial catch	43	430	950	3,879	40	297	0	0	0	0
TELROD COVE (SHA)											
(254-50)		1	6	77,934	403,283	0	0	65,456	231,195	3,482	30,911
	Personal use of commercial catch										
NORTH CAPE, ANTON LARSEN, SHERATIN, & KIZHUYAK AREAS COMBINED											
(259-30,31,32,33,34,35,36,37,38,39)		429	3,317	71,512	397,012	11,618	76,308	628,128	2,335,773	29,892	233,027
	Personal use of commercial catch	37	372	120	619	28	174	0	0	0	0
Subtotal		3,472	28,914	672,568	3,733,185	101,087	699,908	7,212,094	26,668,279	285,981	2,325,769

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Table 39.–Page 2 of 3.

District	Section	Species									
		Chinook		Sockeye		Coho		Pink		Chum	
		Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Southwest Kodiak District											
INNER and OUTER KARLUK SECTION											
(255-10, 20)		985	6,178	134,989	716,098	11,145	85,650	621,743	2,273,697	10,961	90,775
Personal use of commercial catch		2	20	1,483	7,453	74	498	493	1,973	3	43
STURGEON SECTION											
(256-40)		372	2,134	13,373	72,511	346	2,282	441,687	1,550,888	2,409	19,332
HALIBUT BAY SECTION											
(256-25,30)		155	1,445	69,141	376,404	3,380	21,243	238,076	917,510	4,941	38,755
INNER & OUTER AYAKULIK SECTIONS											
(256-10,15,20)		165	1,662	162,674	851,786	2,914	21,703	265,935	951,823	5,625	43,531
Personal use of commercial catch		0	0	379	1,884	0	0	0	0	0	0
Subtotal		1,679	11,439	382,039	2,026,136	17,859	131,376	1,567,934	5,695,891	23,939	192,436
Alitak District											
CAPE ALITAK AND HUMPHY-DEADMAN SECTIONS											
(257-10,20,50,60,70)		213	2,635	166,450	977,278	1,976	13,764	1,408,336	4,870,790	23,595	183,330
Personal use of commercial catch		1	30	45	270	0	0	0	0	0	0
ALITAK BAY, MOSER BAY, OLGA BAY, AND OUTER UPPER STATION SECTIONS											
(257-30,40,41,42,43)		11	105	193,440	1,065,870	933	7,024	155,148	601,370	3,254	26,665
Personal use of commercial catch		3	90	0	0	0	0	52	156	21	157
Subtotal		228	2,860	359,935	2,043,418	2,909	20,788	1,563,536	5,472,316	26,870	210,152
Eastside Kodiak District											
SEVEN RIVERS SECTION											
(258-70,80,83,85,90)		205	1,348	22,194	133,733	811	4,384	26,824	83,750	7,351	54,444
TWO-HEADED SECTION											
(258-54,55,60)		358	2,679	17,355	103,449	508	2,993	12,183	36,209	3,182	22,990
Personal use of commercial catch		5	50	0	0	0	0	0	0	0	0
SITKALIDAK SECTION											
(258-10,20,30,40,51,52,53)		2,313	13,343	113,645	614,669	10,246	70,168	576,559	2,021,726	110,911	852,392
Personal use of commercial catch		1	12	0	0	0	0	0	0	0	0
INNER & OUTER UGAK											
(259-40,41,42,43,44,45,46)		202	1,091	15,692	86,190	261	1,932	41,902	136,033	56,897	439,148
Personal use of commercial catch		0	0	20	100	0	0	0	0	0	0
Subtotal		3,084	18,523	168,906	938,141	11,826	79,477	657,468	2,277,718	178,341	1,368,974

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Table 39.–Page 3 of 3.

District	Section	Species									
		Chinook		Sockeye		Coho		Pink		Chum	
		Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Northeast Kodiak District											
MONASHKA MILLBAY SECTION											
(259-10)		1	6	38	223	979	6,642	66,922	260,904	299	2,499
BUSKIN RIVER AND INNER AND OUTER CHINIAC BAY SECTIONS											
(259-21,22,23,24,25,26,27)		12	88	211	1,174	312	1,287	84,478	298,527	14,380	119,461
Personal use of commercial catch		0	0	0	0	13	87	0	0	0	0
Subtotal		13	94	249	1,397	1,304	8,016	151,400	559,431	14,679	121,960
Mainland District											
BIG RIVER SECTION											
(262-10,15)		0	0	0	0	0	0	0	0	0	0
HALLO BAY SECTION											
(262-20)		0	0	1,042	4,891	17	82	6,241	19,805	1,173	11,168
INNER AND OUTER KUKAK BAY SECTIONS											
(262-25,27,30)		3	26	162	770	14	78	6,548	22,384	5,216	49,609
DAKAVAK BAY SECTION											
(262-35,40,45,50,55)		118	635	17,408	99,548	357	2,644	42,678	151,455	13,365	107,135
KATMAI SECTION											
(262-60)		0	0	274	1,639	0	0	57	201	147	949
ALINCHAK BAY SECTION											
(262-65,70)		187	1,393	18,015	114,448	176	1,224	7,248	30,506	4,547	34,891
Personal use of commercial catch		6	72	110	437	0	0	0	0	0	0
CAPE IGVAK AND WIDE BAY SECTIONS											
(262-75,80,85,90,95)		2,375	19,758	360,994	2,119,963	1,057	6,417	34,915	106,896	47,044	373,389
Personal use of commercial catch		26	194	281	1,388	0	0	0	0	0	0
Subtotal		2,715	22,078	398,286	2,343,084	1,621	10,445	97,687	331,247	71,492	577,141
TOTAL excluding personal use											
		14,785	108,958	2,233,788	12,413,896	208,379	1,450,812	16,873,171	60,417,064	866,345	6,823,762
Personal use of commercial catch		195	2,077	4,115	20,245	1,971	12,649	1,412	5,161	31	256
GRAND TOTAL		14,980	111,035	2,237,903	12,434,141	210,350	1,463,461	16,874,583	60,422,225	866,376	6,824,018

Note: Catch numbers include personal use with commercial gear and ADF&G test fisheries.

Table 40.—Estimated age composition of commercial sockeye salmon catches by sample area, Kodiak Management Area, 2012.

District		Sample Size										Total
Catch Area			0.3	1.2	2.1	1.3	2.2	2.3	3.2	3.3	Other ^a	
NW Kodiak District												
Uganik-Viekoda-Kupreanof	3,657	Percent	0.8	22.7	0.0	28.5	25.0	20.4	1.8	0.2	0.6	100.0
		Numbers	1,790	53,240	86	66,999	58,701	47,929	4,127	526	1,432	234,831
Uyak Bay	4,638	Percent	0.2	11.9	0.1	16.4	53.3	11.7	5.9	0.3	0.3	100.0
		Numbers	670	34,322	173	47,122	153,599	33,580	17,063	828	815	288,171
Spiridon SHA (Telrod Cove)	1,370	Percent	0.1	45.3	0.2	12.3	24.6	15.3	0.2	0.1	1.9	100.0
		Numbers	39	35,316	181	9,589	19,150	11,922	158	82	1,497	77,934
Afognak District												
Foul Bay SHA	597	Percent	0.0	67.7	0.0	26.3	2.5	1.8	0.0	0.0	1.7	100.0
		Numbers	0	16,641	0	6,467	618	453	0	0	412	24,591
Waterfall Bay SHA	557	Percent	0.0	35.6	0.3	55.6	3.9	3.0	0.0	0.0	1.8	100.0
		Numbers	0	5,596	40	8,738	606	474	0	0	275	15,729
SW Kodiak District												
Inner and Outer Karluk ^b	1,249	Percent	0.2	6.8	3.9	6.9	66.6	5.9	7.9	0.8	1.1	100.0
		Numbers	256	10,171	5,837	10,358	99,781	8,840	11,850	1,176	1,577	149,845
Ayakulik-Halibut Bay	1,345	Percent	0.3	12.2	0.3	14.5	63.6	5.3	3.2	0.2	0.4	100.0
		Numbers	627	28,231	684	33,715	147,727	12,364	7,347	499	1,001	232,194
Alitak Bay District												
Moser-Olga-Alitak (gillnet)	3,275	Percent	0.2	12.0	0.0	9.7	45.7	29.6	2.0	0.1	0.7	100.0
		Numbers	296	23,225	33	18,806	88,374	57,181	3,856	252	1,417	193,440
Total		16,688	Percent	0.3	17.0	0.6	16.6	46.7	14.2	3.6	0.3	100.0
			Number	3,678	206,742	7,033	201,793	568,556	172,742	44,401	3,364	1,216,735

^a The “Other” age class listed in the table above consists of age-0.2, -1.1, -0.4, -3.1, -1.4, -2.4, -3.4, and -4.2.

^b Includes Kodiak Salmon Test Fishery catch.

Table 41.—Estimated age composition of Uganik-Viekoda-Kupreanof bays (253-11, 12, 13, 14, 31, 32, 33, 35) commercial sockeye salmon catch by week, 2012.

Statistical Week	Sample Size		Age											Total	
			0.2	0.3	0.4	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.2		3.3
24	351	Percent	0.0	2.0	0.0	8.8	56.4	0.9	0.0	16.5	14.8	0.0	0.0	0.6	100.0
6/7–6/13		Numbers	0	151	0	670	4,277	65	0	1,253	1,123	0	0	43	7,582
25	345	Percent	0.2	1.6	0.0	15.6	44.8	0.6	0.1	16.3	20.1	0.2	0.2	0.4	100.0
6/14–6/20		Numbers	35	324	0	3,281	8,908	105	25	3,231	4,019	35	35	70	20,068
26	321	Percent	0.0	1.5	0.0	24.1	39.0	0.1	0.2	13.8	21.2	0.0	0.0	0.1	100.0
6/21–6/27		Numbers	3	411	0	6,829	10,785	32	58	3,829	5,996	3	3	29	27,976
27	348	Percent	0.0	0.5	0.0	28.1	31.7	0.2	0.0	13.0	26.1	0.2	0.0	0.2	100.0
6/28–7/4		Numbers	0	190	0	10,633	11,829	68	3	4,873	9,840	74	0	68	37,577
28	353	Percent	0.0	0.3	0.0	31.0	28.5	0.0	0.0	12.3	27.3	0.5	0.0	0.0	100.0
7/5–7/11		Numbers	10	99	0	10,542	9,606	3	0	4,177	9,277	181	0	3	33,898
29	338	Percent	0.5	0.3	0.0	28.1	38.7	0.0	0.0	9.7	22.3	0.3	0.0	0.0	100.0
7/12–7/18		Numbers	117	69	0	6,561	9,048	0	0	2,258	5,202	79	0	0	23,334
30	361	Percent	0.3	1.2	0.0	28.9	19.8	0.1	0.0	29.8	17.9	0.3	1.1	0.5	100.0
7/19–7/25		Numbers	88	369	15	8,626	5,990	30	0	8,948	5,380	85	343	149	30,022
31	317	Percent	0.3	0.7	0.3	17.4	21.5	0.5	0.0	38.1	19.0	0.3	1.6	0.3	100.0
7/26–8/1		Numbers	60	147	50	3,611	4,208	100	0	7,320	3,734	59	300	69	19,658
32	0	Percent	0.3	0.4	0.2	13.9	16.5	0.4	0.0	50.0	16.0	0.2	2.2	0.2	100.0
8/2–8/8		Numbers	21	29	14	996	1,221	29	0	3,390	1,161	14	146	14	7,035
33	401	Percent	0.2	0.1	0.0	11.2	9.4	0.1	0.0	63.7	11.6	0.1	3.6	0.1	100.0
8/9–8/15		Numbers	10	2	1	487	397	2	0	2,925	504	2	185	2	4,518
34	310	Percent	0.1	0.0	0.0	5.4	4.8	0.0	0.0	69.5	7.7	0.2	12.0	0.2	100.0
8/16–8/22		Numbers	8	0	0	622	550	0	0	7,989	885	26	1,385	27	11,493
35	212	Percent	0.0	0.0	0.0	3.3	2.0	0.0	0.0	72.4	6.8	0.1	15.0	0.4	100.0
8/23–8/29		Numbers	0	0	0	210	130	0	0	4,645	438	9	961	26	6,418
36–37	0	Percent	0.0	0.0	0.0	3.3	0.9	0.0	0.0	73.6	7.1	0.0	14.6	0.5	100.0
8/30–9/12		Numbers	0	0	0	173	50	0	0	3,865	372	0	768	25	5,252
Total	3,657	Percent	0.1	0.8	0.0	22.7	28.5	0.2	0.0	25.0	20.4	0.2	1.8	0.2	100.0
		Numbers	352	1,790	80	53,240	66,999	432	86	58,701	47,929	568	4,127	526	234,831

Table 42.—Estimated age composition of Uyak Bay (254-10, 20, 30, 40) commercial sockeye salmon catch by week, 2012.

Statistical Week	Sample Size		Age													Total	
			0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.2	3.3		3.4
24	333	Percent	0.3	0.3	0.0	0.0	5.2	23.5	0.4	0.5	55.5	10.4	0.0	2.6	1.1	0.3	100.0
6/7–6/13		Numbers	21	26	0	0	406	1,839	28	42	4,355	820	0	201	87	21	7,846
25	352	Percent	0.1	0.5	0.0	0.0	12.9	38.4	0.8	0.2	32.7	13.3	0.0	1.0	0.2	0.0	100.0
6/14–6/20		Numbers	28	112	0	0	3,323	9,825	183	57	7,571	3,480	0	238	42	0	24,859
26	356	Percent	0.2	0.5	0.0	0.0	20.4	43.0	0.4	0.4	15.1	19.8	0.0	0.4	0.0	0.0	100.0
6/21–6/27		Numbers	37	94	0	0	4,116	8,829	84	74	3,145	4,023	0	87	3	0	20,491
27	370	Percent	0.0	0.5	0.0	0.0	26.7	31.5	0.1	0.0	18.9	22.1	0.0	0.3	0.0	0.0	100.0
6/28–7/4		Numbers	0	122	0	0	6,128	7,254	21	0	4,105	4,923	0	82	0	0	22,634
28	364	Percent	0.0	0.0	0.0	0.0	25.8	29.5	0.2	0.0	21.3	23.1	0.0	0.0	0.0	0.0	100.0
7/5–7/11		Numbers	0	3	0	0	2,269	2,594	21	0	1,899	2,051	3	0	0	0	8,840
29	364	Percent	0.0	0.3	0.0	0.0	29.6	33.8	0.0	0.0	15.3	20.7	0.3	0.0	0.0	0.0	100.0
7/12–7/18		Numbers	0	44	0	2	4,553	5,188	3	0	2,384	3,200	40	6	6	0	15,426
30	358	Percent	0.0	0.7	0.0	0.2	22.9	23.2	0.0	0.0	26.7	24.4	0.3	0.8	0.7	0.0	100.0
7/19–7/25		Numbers	0	156	3	48	4,861	4,935	6	0	5,752	5,231	63	167	161	0	21,385
31	363	Percent	0.0	0.3	0.2	0.0	17.5	18.8	0.4	0.0	32.5	27.5	0.4	1.5	1.0	0.0	100.0
7/26–8/1		Numbers	0	36	23	1	2,079	2,261	46	0	3,941	3,326	47	182	127	0	12,069
32	364	Percent	0.0	0.3	0.0	0.0	18.1	15.0	0.1	0.0	44.3	17.1	0.0	4.7	0.4	0.0	100.0
8/2–8/8		Numbers	0	51	0	0	3,538	2,938	16	0	7,626	3,353	0	736	67	0	18,325
33	353	Percent	0.1	0.2	0.0	0.0	5.8	4.9	0.2	0.0	71.8	5.3	0.0	11.0	0.7	0.0	100.0
8/9–8/15		Numbers	11	26	0	0	742	636	25	0	9,538	704	0	1,443	96	0	13,222
34	359	Percent	0.2	0.0	0.0	0.0	2.3	1.9	0.0	0.0	80.3	4.2	0.0	10.5	0.8	0.0	100.0
8/16–8/22		Numbers	33	0	0	0	515	400	0	0	18,361	935	0	2,401	164	0	22,809
35	353	Percent	0.0	0.0	0.0	0.0	1.9	0.2	0.0	0.0	84.1	2.6	0.0	11.1	0.2	0.0	100.0
8/23–8/29		Numbers	0	0	0	0	756	91	0	0	33,849	966	0	4,484	69	0	40,215
36	349	Percent	0.0	0.0	0.0	0.0	1.7	0.5	0.0	0.0	85.0	1.0	0.0	11.7	0.0	0.0	100.0
8/30–9/5		Numbers	0	0	0	0	786	249	0	0	38,605	441	0	5,314	6	0	45,400
37–38	0	Percent	0.0	0.0	0.0	0.0	1.7	0.6	0.0	0.0	85.1	0.9	0.0	11.7	0.0	0.0	100.0
9/6–9/19		Numbers	0	0	0	0	252	84	0	0	12,467	126	0	1,721	0	0	14,650
Total	4,638	Percent	0.0	0.2	0.0	0.0	11.9	16.4	0.2	0.1	53.3	11.7	0.1	5.9	0.3	0.0	100.0
		Numbers	131	670	26	52	34,322	47,122	433	173	153,599	33,580	153	17,063	828	21	288,171

Table 43.—Estimated age composition of Spiridon Bay (Telrod Cove: 254-50) Special Harvest Area sockeye salmon catch by week, 2012.

Statistical Week	Sample Size		Age										Total
			0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.2	3.3	
26 6/21–6/27	143	Percent	0.7	0.0	29.0	23.4	0.7	0.0	14.8	30.0	0.7	0.7	100.0
		Numbers	36	2	1,591	1,287	36	0	809	1,652	36	38	5,487
27 6/28–7/04	211	Percent	0.1	0.4	35.7	17.8	0.1	0.1	24.9	20.6	0.1	0.4	100.0
		Numbers	3	40	3,368	1,663	3	5	2,406	1,890	3	38	9,420
28 7/05–7/11	317	Percent	0.0	0.5	45.7	11.6	0.0	0.3	24.8	17.0	0.1	0.0	100.0
		Numbers	0	84	8,710	2,356	0	58	4,821	3,357	10	7	19,402
29 7/12–7/18	285	Percent	0.0	1.9	47.5	10.1	0.0	0.3	26.3	13.5	0.3	0.0	100.0
		Numbers	0	433	12,977	2,766	0	86	7,249	3,787	77	0	27,375
30 7/19–7/25	222	Percent	0.0	6.4	51.3	9.7	0.0	0.2	23.9	8.4	0.2	0.0	100.0
		Numbers	0	646	5,425	1,079	0	14	2,655	980	14	0	10,813
31 7/26–8/01	151	Percent	0.0	5.3	60.1	7.7	0.0	0.4	21.0	5.0	0.4	0.0	100.0
		Numbers	0	226	2,311	289	0	18	777	201	18	0	3,840
32 8/02–8/08	118	Percent	0.0	1.7	58.5	9.3	0.0	0.0	27.1	3.4	0.0	0.0	100.0
		Numbers	0	27	934	149	0	0	433	54	0	0	1,597
Total	1,447	Percent	0.1	1.9	45.3	12.3	0.1	0.2	24.6	15.3	0.2	0.1	100.0
		Numbers	39	1,457	35,316	9,589	39	181	19,150	11,922	158	82	77,934

Table 44.—Length composition of Spiridon Bay (Telrod Cove: 254-50) Special Harvest Area sockeye salmon catch samples by age and sex, 2012.

	Age										Total
	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.2	3.3	
Females											
Mean Length (mm)	582	484	512	565	—	—	522	565	513	559	530
SE	—	—	1	2	—	—	2	2	8	17	2
Range	—	—	432–614	495–626	—	—	452–598	477–613	505–520	542–575	432–626
Sample Size	1	1	407	121	0	0	215	134	2	2	883
Males											
Mean Length (mm)	—	376	533	593	585	415	549	599	554	—	543
SE	—	6	2	4	—	19	3	3	—	—	3
Range	—	315–510	332–638	503–645	—	390–452	435–634	500–650	—	—	315–650
Sample Size	0	33	259	62	1	3	128	77	1	0	564
All Fish											
Mean Length (mm)	582	379	521	574	585	415	532	577	526	559	535
SE	—	7	1	2	—	19	2	2	15	17	1
Range	—	315–510	332–638	495–645	—	390–452	435–634	477–650	505–554	542–575	315–650
Sample Size	1	34	666	183	1	3	343	211	3	2	1,447

Table 45.—Estimated sex composition of Spiridon Bay (Telrod Cove: 254-50) Special Harvest Area sockeye salmon catch by week, 2012.

Statistical Week	Dates	Sample Size		Harvest					
		Females	Males	Total	Percent		Number		
					Females	Males	Females	Males	Total
26	6/21–6/27	79	81	160	49.9	50.1	2,738	2,749	5,487
27	6/28–7/04	144	96	240	59.4	40.6	5,597	3,823	9,420
28	7/05–7/11	224	136	360	60.8	39.2	11,791	7,611	19,402
29	7/12–7/18	171	149	320	55.5	44.5	15,205	12,170	27,375
30	7/19–7/25	159	81	240	62.9	37.1	6,806	4,007	10,813
31	7/26–8/01	101	59	160	64.9	35.1	2,490	1,350	3,840
32	8/02–8/08	94	26	120	78.3	21.7	1,251	346	1,597
Total		972	628	1,600	58.9	41.1	45,878	32,056	77,934

Table 46.—Estimated age composition of Foul Bay (251-41) and Waterfall Bay (251-84) Special Harvest Areas commercial sockeye salmon, 2012.

Special Harvest Area	Statistical Week	Sample Size		Age								Total
				1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	
Foul Bay SHA	24–28 6/07–7/11	597	Percent	1.2	67.7	26.3	0.3	0.0	2.5	1.8	0.2	100.0
			Numbers	288	16,641	6,467	82	0	618	453	41	24,591
Waterfall SHA	24–27 6/07–7/04	557	Percent	1.8	35.6	55.6	0.0	0.3	3.9	3.0	0.0	100.0
			Numbers	275	5,596	8,738	0	40	606	474	0	15,729

Table 47.—Length composition of Foul Bay SHA (251-41) and Waterfall Bay SHA (251-84) sockeye salmon catch samples by age and sex, 2012.

Foul Bay SHA	Age							Total
	1.1	1.2	1.3	1.4	2.2	2.3	2.4	
Females								
Mean Length (mm)	—	494	542	540	484	527	516	510
SE	—	2	2	14	10	5	—	2
Range	—	426–546	500–575	526–554	436–533	510–545	—	426–575
Sample Size	0	193	94	2	9	9	1	308
Males								
Mean Length (mm)	366	514	561	—	500	573	—	521
SE	8	2	3	—	6	17	—	2
Range	341–398	440–565	500–616	—	485–527	556–590	—	341–616
Sample Size	7	211	63	0	6	2	0	289
All Fish								
Mean Length (mm)	366	504	550	540	490	536	516	515
SE	8	1	2	14	7	7	—	1
Range	341–398	426–565	500–616	526–554	436–533	510–590	—	341–616
Sample Size	7	404	157	2	15	11	1	597

Waterfall Bay SHA	Age						Total
	1.1	1.2	1.3	2.1	2.2	2.3	
Females							
Mean Length (mm)	—	471	526	—	468	514	500
SE	—	2	2	—	8	6	3
Range	—	408–571	452–580	—	400–514	480–525	400–580
Sample Size	0	115	140	0	12	7	274
Males							
Mean Length (mm)	347	499	543	372	500	544	516
SE	5	3	2	—	8	14	3
Range	315–380	403–573	482–607	—	464–540	495–598	315–607
Sample Size	13	105	148	1	10	6	283
All Fish							
Mean Length (mm)	347	484	535	372	483	528	508
SE	5	2	2	—	7	8	2
Range	315–380	403–573	452–607	—	400–540	480–598	315–607
Sample Size	13	220	288	1	22	13	557

Table 48.—Estimated age composition of Inner and Outer Ayakulik and Halibut Bay sections (256-10, 15, 20, 25, 30) commercial sockeye salmon catch, 2012.

Statistical Week	Sample Size		Age											Total	
			0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.2		3.3
26	340	Percent	0.3	0.6	0.3	23.4	32.9	0.0	0.3	35.9	5.6	0.0	0.6	0.0	100.0
6/21–6/27		Numbers	141	281	141	11,826	16,663	0	141	17,600	2,808	6	299	12	49,917
29	0	Percent	0.1	0.3	0.1	14.7	16.9	0.0	0.1	60.5	6.1	0.2	0.7	0.3	100.0
7/12–7/18		Numbers	106	212	106	12,035	13,800	0	106	49,554	4,994	130	601	259	81,902
31	354	Percent	0.0	0.0	0.0	8.3	5.0	0.0	0.0	78.5	6.4	0.3	0.8	0.5	100.0
7/26–8/1		Numbers	4	8	4	2,309	1,278	0	4	23,242	1,885	79	244	157	29,214
32	0	Percent	0.0	0.0	0.0	6.6	2.9	0.0	0.1	81.9	6.2	0.3	1.4	0.5	100.0
8/2–8/8		Numbers	0	4	4	801	357	4	8	9,956	758	31	170	62	12,155
33	0	Percent	0.0	0.3	0.3	2.5	3.9	0.3	0.6	81.8	4.0	0.0	6.2	0.1	100.0
8/9–8/15		Numbers	0	53	53	426	681	53	106	14,119	684	4	1,077	9	17,266
34	296	Percent	0.0	0.3	0.3	2.0	3.6	0.3	0.7	81.3	3.5	0.0	8.0	0.0	100.0
8/16–8/22		Numbers	0	58	58	406	709	58	141	16,322	703	0	1,661	0	20,114
35	355	Percent	0.0	0.1	0.1	2.0	1.2	0.1	0.8	78.4	2.5	0.0	14.9	0.0	100.0
8/23–8/29		Numbers	0	10	10	428	228	10	178	16,935	532	0	3,295	0	21,626
Total	1,345	Percent	0.1	0.3	0.2	12.2	14.5	0.1	0.3	63.6	5.3	0.1	3.2	0.2	100.0
		Numbers	251	627	376	28,231	33,715	125	684	147,727	12,364	249	7,347	499	232,194

Table 49.—Estimated age composition of Inner and Outer Karluk Sections (255-10 and 255-20) commercial sockeye salmon catch, 2012.

Statistical Week	Sample Size		Age														Total	
			0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3		4.2
24	213	Percent	0.5	0.0	0.0	0.0	5.6	6.1	0.0	0.9	70.9	9.4	0.0	0.0	5.6	0.9	0.0	100.0
6/7–6/13		Numbers	13	0	0	0	155	167	0	26	1,945	258	0	0	155	26	0	2,744
25	0	Percent	0.2	0.3	0.0	1.5	15.6	15.2	0.0	6.2	48.6	8.6	0.0	0.0	3.2	0.4	0.0	100.0
6/14–6/20		Numbers	23	38	0	172	1,748	1,694	0	696	5,393	958	0	0	353	46	0	11,121
26	0	Percent	0.1	0.5	0.0	2.2	20.1	19.2	0.0	8.6	38.7	8.3	0.0	0.0	2.1	0.2	0.0	100.0
6/21–6/27		Numbers	14	61	0	274	2,505	2,397	0	1,061	5,103	1,064	0	0	286	27	0	12,790
27	325	Percent	0.0	0.6	0.0	2.6	22.4	21.5	0.0	9.6	33.0	8.4	0.0	0.0	1.7	0.2	0.0	100.0
6/28–7/4		Numbers	1	26	0	116	1,008	968	1	433	1,480	378	1	0	75	9	1	4,497
28	0	Percent	0.1	0.5	0.0	2.0	18.3	18.5	0.1	6.9	39.8	9.7	0.1	0.0	3.0	0.8	0.1	100.0
7/5–7/11		Numbers	2	12	0	48	433	433	2	170	863	213	2	0	62	15	2	2,255
29	0	Percent	0.2	0.4	0.0	1.6	15.5	16.5	0.2	5.1	44.4	10.6	0.2	0.0	4.0	1.2	0.2	100.0
7/12–7/18		Numbers	7	21	0	76	742	790	7	244	2,133	510	7	0	191	60	7	4,796
31	350	Percent	0.3	0.3	0.0	0.5	8.2	10.9	0.3	0.8	57.2	12.3	0.3	0.0	6.5	2.2	0.3	100.0
7/26–8/1		Numbers	62	63	0	127	1,900	2,515	62	175	13,175	2,832	62	3	1,498	503	62	23,041
32	0	Percent	0.2	0.2	0.0	0.5	7.2	9.4	0.2	1.2	60.7	10.8	0.2	0.0	7.1	1.9	0.2	100.0
8/2–8/8		Numbers	24	24	0	48	737	962	24	120	6,236	1,108	24	5	734	198	24	10,268
35	0	Percent	0.0	0.0	0.0	0.1	2.2	2.0	0.0	3.3	77.8	3.3	0.0	0.2	10.3	0.6	0.0	100.0
8/23–8/29		Numbers	4	4	0	8	178	163	4	269	6,330	276	4	19	835	51	4	8,148
36	361	Percent	0.0	0.0	0.0	0.0	1.2	0.6	0.0	3.7	80.9	2.0	0.0	0.3	10.8	0.4	0.0	100.0
8/30–9/5		Numbers	7	7	0	13	537	269	7	1,576	34,476	861	7	112	4,614	166	7	42,658
37	0	Percent	0.0	0.0	0.0	0.0	0.8	0.0	0.0	3.9	82.3	1.4	0.0	0.3	11.1	0.3	0.0	100.0
9/6–9/12		Numbers	0	0	0	0	125	0	0	584	12,397	209	0	42	1,670	42	0	15,068
38	0	Percent	0.0	0.0	0.0	0.0	0.8	0.0	0.0	3.9	82.3	1.4	0.0	0.3	11.1	0.3	0.0	100.0
9/13–9/19		Numbers	0	0	0	0	102	0	0	478	10,147	171	0	34	1,367	34	0	12,334
39	0	Percent	0.0	0.0	0.0	0.0	0.8	0.0	0.0	3.9	82.3	1.4	0.0	0.3	11.1	0.3	0.0	100.0
9/20–9/26		Numbers	0	0	0	0	1	0	0	5	103	2	0	0	14	0	0	125
Total	1,249	Percent	0.1	0.2	0.0	0.6	6.8	6.9	0.1	3.9	66.6	5.9	0.1	0.1	7.9	0.8	0.1	100.0
		Numbers	157	256	0	882	10,171	10,358	108	5,837	99,781	8,840	108	215	11,850	1,176	108	149,845

Note: Includes Kodiak Salmon Test Fishery Catch

Table 50.—Estimated age composition of Olga Bay, Alitak Bay, and Moser Bay sections (257-40, 41, 43) commercial sockeye salmon catch, 2012.

Statistical Week	Sample Size		Age											Total
			0.2	0.3	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.2	3.3	
24 6/7–6/13	358	Percent	0.3	0.5	7.4	10.9	0.0	0.3	39.9	39.0	0.0	1.4	0.3	100.0
		Numbers	38	67	913	1,366	0	33	4,983	4,901	0	180	35	12,517
25 6/14–6/20	357	Percent	0.8	0.0	13.4	5.9	0.0	0.0	48.2	29.1	0.0	2.2	0.3	100.0
		Numbers	77	0	1,233	540	0	0	4,420	2,673	0	206	26	9,174
26 6/21–6/27	350	Percent	0.5	0.0	13.4	7.2	0.2	0.0	41.1	35.0	0.0	2.3	0.3	100.0
		Numbers	173	0	4,598	2,446	57	0	14,071	12,006	0	807	93	34,251
27 6/28–7/4	361	Percent	0.1	0.0	10.3	11.0	0.2	0.0	39.7	37.6	0.0	1.0	0.0	100.0
		Numbers	12	0	1,779	1,961	44	0	6,980	6,555	0	163	7	17,502
28 7/5–7/11	350	Percent	0.2	0.0	12.0	8.3	0.1	0.0	37.4	40.7	0.0	1.3	0.0	100.0
		Numbers	45	0	2,269	1,472	13	0	6,869	7,593	5	252	0	18,519
29 7/12–7/18	355	Percent	0.3	0.1	12.1	11.7	0.3	0.0	32.0	41.5	0.2	1.7	0.0	100.0
		Numbers	97	52	4,091	4,131	99	0	10,767	14,032	86	581	0	33,936
30 7/19–7/25	312	Percent	0.4	0.9	11.1	17.4	0.5	0.0	41.3	27.4	0.3	0.7	0.0	100.0
		Numbers	59	145	1,802	2,803	83	0	6,556	4,581	47	118	0	16,194
31 7/26–8/1	350	Percent	0.9	0.4	10.4	12.4	0.2	0.0	60.8	14.2	0.1	0.6	0.0	100.0
		Numbers	103	32	1,134	1,309	16	0	6,802	1,482	8	70	1	10,958
32 8/2–8/8	0	Percent	1.0	0.0	11.2	8.7	0.0	0.0	67.7	9.6	0.0	1.7	0.1	100.0
		Numbers	108	0	1,154	898	0	0	6,980	989	0	172	8	10,309
33 8/9–8/15	368	Percent	0.8	0.0	14.1	6.3	0.0	0.0	66.3	7.9	0.0	4.3	0.3	100.0
		Numbers	181	0	3,142	1,390	0	0	14,742	1,752	0	967	60	22,234
35 8/23–8/29	0	Percent	0.8	0.0	14.1	6.3	0.0	0.0	66.3	7.9	0.0	4.3	0.3	100.0
		Numbers	48	0	840	372	0	0	3,942	469	0	259	16	5,946
36 8/30–9/5	0	Percent	0.8	0.0	14.1	6.3	0.0	0.0	66.3	7.9	0.0	4.3	0.3	100.0
		Numbers	14	0	244	108	0	0	1,146	136	0	75	5	1,729
37 9/6–9/12	0	Percent	0.8	0.0	14.1	6.3	0.0	0.0	66.3	7.9	0.0	4.3	0.3	100.0
		Numbers	1	0	24	11	0	0	113	13	0	7	0	171
Total	3,161	Percent	0.5	0.2	12.0	9.7	0.2	0.0	45.7	29.6	0.1	2.0	0.1	100.0
		Numbers	959	296	23,225	18,806	312	33	88,374	57,181	146	3,856	252	193,440

Table 51.—Estimated age composition of Kitoi Bay Section (252-32) commercial chum salmon catch, 2012.

Statistical Week	Sample Size		Age				Total
			0.2	0.3	0.4	0.5	
24 6/07–6/13	0	Percent	1.4	46.8	51.8	0.0	100.0
		Numbers	67	2,212	2,446	0	4,725
25 6/14–6/20	134	Percent	1.5	47.1	51.4	0.0	100.0
		Numbers	240	7,847	8,620	2	16,709
26 6/21–6/27	68	Percent	1.9	54.7	42.9	0.5	100.0
		Numbers	556	15,493	12,208	137	28,394
27 6/28–7/04	68	Percent	0.9	63.6	34.7	0.9	100.0
		Numbers	68	3,949	2,101	52	6,171
32–36 8/02–9/5	0	Percent	11.4	77.1	11.4	0.0	100.0
		Numbers	312	2,103	312	0	2,726
Total	202	Percent	2.1	53.8	43.7	0.3	100.0
		Numbers	1,243	31,603	25,687	191	58,725

Table 52.–Spiridon Lake sockeye salmon estimated catch by area and estimated total run by age class, 2012.

Area	Sample Size		Age										Total
			0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.2	3.3	
<i>Estimated Spiridon Catch by Area</i>													
Spiridon Bay Special Harvest Area (SBSHA-Telrod Cove: 254-50)													
	1,447	Percent	0.1	1.9	45.3	12.3	0.1	0.2	24.6	15.3	0.2	0.1	100.0
		Numbers	39	1,457	35,316	9,589	39	181	19,150	11,922	158	82	77,934
SW Afognak Section and NW Kodiak District													
	8,295	Percent ^a	0.1	1.9	45.3	12.3	0.1	0.2	24.6	15.3	0.2	0.1	100.0
		Numbers ^b	47	1,747	42,329	11,493	47	217	22,952	14,289	190	99	93,410
Total Run													
	9,742	Percent	0.1	1.9	45.3	12.3	0.1	0.2	24.6	15.3	0.2	0.1	100.0
		Numbers	86	3,204	77,645	21,081	86	398	42,102	26,211	348	181	171,344

^a Age composition based on samples collected at SBSHA.

^b The estimate of Spiridon contribution in the commercial harvest was quantified via visual Scale Pattern Analysis (SPA) of the Uyak and Uganik-Viekoda-Kupreanof commercial scale samples utilizing the unique scale pattern of the Spiridon age-2.2 fish.

Table 53.—Karluk Lake early-run sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2012.

Area	Sample Size		Age										Total
			1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	3.4	
<i>Estimated Karluk Early-Run Catch by Area</i>													
<i>Uyak Bay (254-10 – 254-40)</i>													
	2,139	Percent	0.0	6.6	4.3	0.0	79.1	5.8	0.0	3.3	0.7	0.1	100.0
		Numbers	0	1,208	796	0	14,540	1,063	0	612	136	21	18,376
<i>Uganik-Viekoda-Kupreanof (253-11 – 253-35)</i>													
	2,056	Percent	0.0	6.6	4.3	0.0	79.1	5.8	0.0	0.6	3.6	0.0	100.0
		Numbers	0	395	260	0	4,749	347	0	38	213	0	6,001
<i>Karluk-Sturgeon (255-10, 255-20, 256-40)</i>													
	538	Percent	0.0	8.7	5.8	0.0	72.2	7.7	0.0	4.8	0.8	0.0	100.0
		Numbers	0	2,049	1,350	0	16,917	1,804	0	1,120	183	0	23,424
<hr/>													
Total Catch	4,733	Percent	0.0	7.6	5.0	0.0	75.7	6.7	0.0	3.7	1.1	0.0	100.0
		Numbers	0	3,652	2,407	0	36,206	3,214	0	1,770	532	21	47,801
<hr/>													
<i>Karluk Early-Run Escapement</i>													
	1,212	Percent	0.0	0.4	4.0	4.2	18.4	28.7	8.1	7.5	17.6	10.7	99.5
		Numbers	240	11,567	7,623	10,309	139,219	10,181	1,589	7,017	339	0	188,085
<hr/>													
Total Run	5,945	Percent	0.1	6.5	4.3	4.4	74.4	5.7	0.7	3.7	0.4	0.0	100.0
		Numbers	240	15,219	10,030	10,309	175,426	13,395	1,589	8,786	871	21	235,886

Note: Catches were apportioned to Karluk using a freshwater-age-3 marker. Karluk catches include test fishery harvest.

Table 54.—Karluk Lake early-run sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age																	Total Return/			
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	4.1	2.4	3.3	4.2	8yo	9yo	Return	Spawner	
1976	204,037																			0		
1977	185,312																			0	0	
1978	248,741																0	10,989	0	0	0	
1979	212,872										0	50,484	45,654	0	641	14,673	0	0	0	0		
1980	132,396							0	11,635	193,760	4,085	0	103,899	60,395	0	0	37,689	0	0	0		
1981	97,937			0	8,558	18,604	0	3,735	278,831	1,672	0	117,158	38,129	0	272	22,433	0	0	0	0		
1982	122,705	0	1,244	841	4,650	5,466	0	21,058	197,293	4,169	0	93,560	37,079	0	0	20,728	0	0	320	386,408	3.1	
1983	215,620	0	143	564	8,159	7,032	0	14,244	149,947	1,728	0	183,829	33,945	0	337	14,082	0	0	0	414,009	1.9	
1984	288,422	0	0	0	4,090	8,393	0	5,830	97,537	738	0	94,258	30,589	0	908	19,634	0	0	0	261,977	0.9	
1985	316,688	0	0	24	4,258	2,842	0	3,969	72,857	3,010	0	88,599	57,934	0	1,955	40,331	0	68	0	275,847	0.9	
1986	358,756	24	0	337	6,152	2,201	346	6,443	87,691	4,031	94	129,381	131,218	0	479	61,223	1,508	348	0	431,475	1.2	
1987	354,094	427	0	1,456	958	2,884	0	8,503	114,504	19,876	416	44,051	337,905	0	285	60,244	2,309	2,659	0	596,477	1.7	
1988	296,510	0	0	0	8,383	6,297	0	9,708	84,322	13,770	0	37,096	202,729	0	320	70,357	231	2,945	0	436,159	1.5	
1989	349,753	0	1,621	0	8,492	7,624	0	13,979	104,564	5,517	0	167,751	101,296	0	1	69,709	5,362	1,713	0	487,630	1.4	
1990	196,197	0	181	0	18,149	2,780	0	50,649	79,156	6,586	652	146,751	97,063	0	269	70,863	760	0	0	473,858	2.4	
1991	243,069	0	1,224	1,062	26,661	12,015	0	83,430	326,422	7,087	0	127,809	81,364	809	107	12,113	2,476	247	0	682,826	2.8	
1992	217,152	0	2,669	4	9,627	9,642	0	13,159	52,730	14,935	0	42,891	58,375	0	769	36,603	0	79	0	241,483	1.1	
1993	261,169	2	1,534	350	3,309	18,252	0	7,718	226,377	2,275	0	128,158	35,029	0	1,752	42,563	437	288	0	468,044	1.8	
1994	260,771	0	1,017	0	8,956	7,266	0	41,179	294,780	1,857	427	182,133	54,148	0	587	33,887	1,781	1,042	0	629,059	2.4	
1995	238,079	0	218	0	23,268	13,106	0	33,004	231,809	3,463	0	245,934	83,559	0	1,405	52,470	835	492	0	689,562	2.9	
1996	250,357	0	0	0	2,063	5,959	0	2,217	253,847	2,326	0	215,129	84,029	0	61	42,035	0	1,575	0	609,241	2.4	
1997	252,859	0	0	1,838	3,930	11,696	0	6,691	233,964	3,274	0	131,879	63,748	0	0	24,066	0	0	0	481,086	1.9	
1998	252,298	0	574	0	4,258	19,885	0	5,410	531,206	4,517	532	168,024	104,530	715	0	14,578	0	0	0	854,229	3.4	
1999	392,419	0	898	0	15,382	28,948	0	33,620	432,204	10,393	76	192,314	80,270	0	0	48,461	0	116	0	842,682	2.1	
2000	291,351	0	939	0	9,611	4,286	0	3,393	223,141	6,013	129	109,252	78,082	0	483	74,506	523	1,561	0	511,919	1.8	
2001	338,799	0	0	0	3,223	6,573	0	1,102	216,151	5,644	0	274,770	51,394	0	3,144	42,585	425	895	0	605,906	1.8	
2002	456,842	0	78	0	4,894	11,188	0	7,592	69,773	1,251	99	59,363	12,086	0	698	4,882	0	0	0	171,904	0.4	
2003	451,856	0	0	286	2,237	9,403	0	1,150	30,926	638	49	15,852	15,878	621	1	1,494	686	128	0	79,349	0.2	
2004	393,468	760	0	99	196	390	0	946	17,044	4,700	0	5,120	32,065	0	0	10,449	101	21		71,891	0.2	
2005	283,860	0	279	0	6,029	1,257	0	2,506	14,088	4,245	0	7,754	16,806	176	0	871	0			54,010	0.2	
2006	202,366	0	0	23	15,167	5,207	0	4,056	27,614	6,532	0	13,395	8,786	0								
2007	294,740	0	759	20	3,832	16,049	0	10,030	175,426	1,589												
2008	82,191	0	338	0	15,219	10,309																
2009	52,798	0	240																			
2010	71,453																					
2011	87,049																					
2012	188,085																					
																			10-year average (1996–2005):		428,222	1.4

Table 55.—Karluk Lake late-run sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2012.

Area	Sample Size		Age											Total	
			0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2		3.3
<i>Estimated Karluk Late-Run Catch by Area</i>															
Uyak Bay (254-10 – 254-40)	2,863	Percent	0.0	0.0	0.0	1.5	1.0	0.0	0.0	77.4	6.8	0.0	12.7	0.5	100.0
		Numbers	45	0	0	1,888	1,313	0	0	100,239	8,806	0	16,451	692	129,434
Uganik-Viekoda-Kupreanof (253-11 – 253-35)	1,939	Percent	0.1	0.0	0.0	1.5	1.0	0.0	0.0	77.4	6.8	0.0	12.3	0.9	100.0
		Numbers	35	0	0	485	337	0	0	25,739	2,261	0	4,089	313	33,259
Ayakulik-Halibut Bay (256-10 – 256-30)	1,302	Percent	0.0	0.2	0.2	2.0	2.2	0.2	0.8	79.7	3.0	0.0	11.9	0.0	100.0
		Numbers	0	34	34	417	468	34	159	16,628	617	0	2,478	0	20,870
Inner and Outer Karluk (255-10 – 255-20)	1,249	Percent	0.1	0.0	0.2	1.4	1.0	0.0	3.5	74.8	6.0	0.2	11.7	1.1	100.0
		Numbers	93	0	197	1,291	898	0	3,208	68,545	5,459	215	10,730	993	91,629
Total Catch	7,353	Percent	0.1	0.0	0.1	1.5	1.1	0.0	1.2	76.7	6.2	0.1	12.3	0.7	100.0
		Numbers	173	34	231	4,081	3,016	34	3,367	211,151	17,143	215	33,749	1,999	275,192
<i>Karluk Late-Run Escapement</i>															
	1,252	Percent	0.1	0.0	0.0	1.4	1.0	0.0	1.0	76.6	6.7	0.0	12.5	0.6	100.0
		Numbers	328	0	119	4,539	3,156	0	3,122	240,961	21,168	2	39,281	1,930	314,605
Total Run	8,605	Percent	0.1	0.0	0.1	1.5	1.0	0.0	1.1	76.7	6.5	0.0	12.4	0.7	100.0
		Numbers	501	34	349	8,620	6,173	34	6,489	452,112	38,311	217	73,030	3,929	589,797

Note: Catches were apportioned to Karluk using a freshwater-age-3 marker.

Table 56.—Karluk Lake late-run sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age																		Total Return	Return/Spawner	
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	4.2	8yo	9yo			
1976	319,459																			0		
1977	366,936																			0	0	
1978	112,194														0	6,728		0	0	0		
1979	248,908																			0	0	
1980	14,227																			0	0	
1981	124,769					0	5,158	13,129	0	0	402,872	2,521	0	187,293	49,557	0	14,077	0	0	0		
1982	41,702		0	0	0	0	1,261	0	5,239	290,631	606	0	110,997	34,711	0	19,631	0	0	0	0		
1983	220,795	0	0	0	4,079	4,160	12,830	0	480	241,803	1,268	31	213,452	42,156	2,070	47,370	0	0	0	0	569,699	2.6
1984	131,846	0	885	0	0	445	6,246	0	30,516	424,123	0	937	303,542	271,018	471	71,764	651	0	0	0	1,110,598	8.4
1985	679,260	169	0	0	1,084	30,165	212	189	60,235	784,914	494	595	493,743	421,972	462	43,998	0	42	0	0	1,838,274	2.7
1986	528,415	0	893	0	15,519	39,109	978	105	57,974	835,214	1,162	0	114,862	655,219	563	60,240	325	1,770	0	0	1,783,933	3.4
1987	412,157	106	5,976	201	17,067	24,703	1,737	0	550	226,552	2,373	0	23,389	320,723	79	54,451	1,600	0	0	0	679,507	1.6
1988	282,306	0	2,531	111	2,424	4,649	1,512	0	3,127	189,196	7,249	0	71,078	212,649	0	16,740	0	9	0	0	511,274	1.8
1989	758,893	0	3,555	799	3,717	5,909	12,607	0	3,302	308,439	6,233	0	151,212	214,110	0	12,030	950	0	0	0	722,863	1.0
1990	541,891	0	3,591	971	6,292	16,995	3,241	0	10,310	447,371	1,085	18	52,479	80,226	591	62,392	1,095	64	0	0	686,721	1.3
1991	831,970	0	7,113	340	2,879	16,292	3,023	0	8,568	340,535	4,731	52	191,311	85,334	952	13,107	659	111	0	0	675,007	0.8
1992	614,262	0	1,567	1,923	0	3,880	6,759	0	12,234	57,188	5,043	0	76,196	138,987	513	28,379	0	0	0	0	332,669	0.5
1993	396,288	0	0	1,501	2,860	3,550	17,168	0	11,541	412,758	1,362	36	202,913	75,591	0	23,523	0	0	0	0	752,802	1.9
1994	587,258	0	0	198	1,192	24,718	4,323	0	17,261	616,350	1,008	0	159,094	109,890	551	41,274	821	128	0	0	976,808	1.7
1995	504,977	0	1,156	0	3,219	48,766	8,685	0	1,839	353,857	5,252	0	390,880	129,216	424	28,253	405	1,668	0	0	973,619	1.9
1996	323,969	0	540	633	0	2,970	108	0	469	283,071	2,817	0	149,445	139,820	0	83,431	0	934	0	0	664,238	2.1
1997	311,902	0	0	407	0	1,473	21,821	0	291	494,043	18,682	0	268,631	235,707	0	12,330	0	421	0	0	1,053,807	3.4
1998	384,848	0	0	136	0	586	33,787	1,399	2,716	923,141	8,407	0	78,063	143,454	0	12,558	0	284	0	0	1,204,530	3.1
1999	589,119	0	0	0	0	25,117	41,401	0	7,645	403,399	3,410	85	154,603	210,642	0	65,446	0	302	0	0	912,219	1.5
2000	445,393	155	669	51	3,376	6,049	270	0	1,126	531,303	2,955	0	292,380	55,025	2,875	100,967	1,046	4,014	10	0	1,002,271	2.3
2001	524,739	0	0	0	0	2,543	5,375	0	2,611	132,216	3,786	0	305,575	113,907	13,374	38,224	0	262	0	0	617,979	1.2
2002	408,734	0	0	62	2,790	3,319	12,383	0	6,844	183,353	672	361	161,086	25,895	9	14,881	99	528	0	0	412,282	1.0
2003	626,854	0	0	208	1,750	2,494	1,544	0	1,887	41,395	2,247	0	15,635	269,401	0	5,707	10,460	1,746	0	0	354,474	0.6
2004	326,466	0	277	5	301	1,998	510	0	543	15,162	10,973	0	7,084	223,546	0	8,868	2,084	0	0	0	271,352	0.8
2005	498,102	0	3,532	63	0	423	2,022	0	544	63,514	768	0	20,543	72,929	0	3,929	0	0	0	0	168,266	0.3
2006	288,007	0	0	15	0	1,734	2,029	0	1,553	123,394	11,965	34	38,311	73,030	0							
2007	251,835	0	0	81	2,235	3,207	18,490	0	6,173	452,112	217											
2008	164,299	0	0	0	34	8,620	6,489															
2009	277,280	0	501	349																		
2010	276,649	0																				
2011	230,273																					
2012	314,605																					
																	10-year average (1996–2005):		666,142	1.6		

Table 57.—Ayakulik River (Red Lake) sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2012.

Area	Sample Size	Age											Total	
		0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	3.3		
<i>Estimated Ayakulik Catch by Area</i>														
Ayakulik-Halibut Bay Sections (256-10 – 256-30) through 15 August														
	694	Percent	0.3	0.2	14.4	17.3	0.0	0.2	60.3	5.9	0.0	1.3	0.3	100.0
		Numbers	559	308	27,397	32,779	57	365	114,470	11,129	0	2,391	499	189,954
Ayakulik-Halibut Bay Sections (256-10 – 256-30) post 15 August														
	651	Percent	0.0	1.8	2.0	3.9	0.0	0.8	88.3	2.7	0.1	0.5	0.0	100.0
		Numbers	0	251	282	537	0	111	12,271	372	11	64	0	13,899
Karluk-Sturgeon Sections (255-10, 255-20, 256-40) through 15 August														
	888	Percent	0.1	1.4	9.2	23.4	0.1	2.7	49.9	12.3	0.0	0.5	0.3	100.0
		Numbers	19	195	1,321	3,341	19	386	7,141	1,759	4	71	47	14,302
Karluk-Sturgeon Sections (255-10, 255-20, 256-40) post 15 August														
	361	Percent	0.0	1.8	2.0	3.9	0.0	0.8	88.3	2.7	0.1	0.5	0.0	100.0
		Numbers	0	212	239	454	0	94	10,373	315	9	54	0	11,750
<hr/>														
Total Catch	2,594	Percent	0.3	0.4	12.7	16.1	0.0	0.4	62.7	5.9	0.0	1.1	0.2	100.0
		Numbers	578	966	29,239	37,110	76	956	144,255	13,575	24	2,581	546	229,906
<hr/>														
<i>Ayakulik Escapement</i>														
	2,859	Percent	0.1	2.7	11.5	20.3	0.1	3.3	53.2	8.3	0.1	0.5	0.0	100.0
		Numbers	288	8,702	37,695	66,601	241	10,673	174,599	27,322	200	1,798	136	328,254
<hr/>														
Total Escapement	2,859	Percent	0.1	2.7	11.5	20.3	0.1	3.3	53.2	8.3	0.1	0.5	0.0	100.0
		Numbers	288	8,702	37,695	66,601	241	10,673	174,599	27,322	200	1,798	136	328,254
<hr/>														
<i>Total Run</i>														
	5,453	Percent	0.2	1.7	12.0	18.6	0.1	2.1	57.1	7.3	0.0	0.8	0.1	100.0
		Numbers	866	9,668	66,934	103,711	317	11,628	318,854	40,897	224	4,379	682	558,160

Note: In 2012, 99.7% of the Ayakulik and Halibut Bay sections harvest through 8/15 was attributed to Ayakulik based on age composition of the samples. After 8/15, 33% of the Ayakulik and Halibut Bay sections harvest was attributed to Ayakulik.

Table 58.—Ayakulik River (Red Lake) sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age																Total Return/Spawner	
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4		
1976	219,047	0	0	5,835	3,855	405,330	8,408	0	164,495	187,009	0	0	61,395	0	0	0	0	836,328	3.8
1977	306,982	0	0	0	0	5,060	3,431	0	18,656	170,721	0	0	85,541	3,940	0	0	0	287,349	0.9
1978	132,864	0	0	0	0	1,556	15,799	0	14,937	45,081	0	0	42,151	2,747	0	0	0	122,273	0.9
1979	222,270	0	0	3,625	441	16,345	18,352	0	40,958	131,539	0	0	41,815	1,438	0	0	0	254,511	1.1
1980	774,328	0	0	11,780	13,347	402,761	24,781	0	232,583	305,083	0	0	159,440	2,762	0	0	0	1,152,537	1.5
1981	279,200	0	0	17,149	0	310,784	7,450	0	230,889	328,622	0	0	168,527	28,564	0	0	0	1,091,984	3.9
1982	169,678	0	0	6,857	7,500	1,626	2,596	0	16,351	123,667	0	0	77,129	4,751	0	0	0	240,476	1.4
1983	171,415	0	0	548	1,171	20,198	15,116	0	72,231	168,055	0	0	104,765	0	0	0	0	382,085	2.2
1984	283,215	0	0	7,779	3,311	138,185	78,899	0	72,319	197,026	0	0	103,450	3,347	0	0	0	604,316	2.1
1985	388,759	0	0	61,345	3,903	365,489	18,971	0	589,731	513,314	0	0	229,750	4,276	0	0	0	1,786,779	4.6
1986	318,135	0	0	4,480	38,326	571,371	6,489	0	506,463	365,644	0	0	231,471	5,967	0	0	0	1,730,211	5.4
1987	261,913	0	0	12,991	15,380	173,341	13,602	0	103,512	317,142	0	0	341,728	32,807	0	5,063	0	1,015,566	3.9
1988	291,774	0	0	2,822	3,351	81,584	2,832	0	62,159	126,124	0	0	27,783	10,655	0	8,225	0	325,535	1.1
1989	768,101	0	0	2,571	5,565	26,297	29,189	0	18,318	310,379	0	0	254,557	59,553	0	46,238	0	752,667	1.0
1990	371,282	0	0	1,028	8,047	3,618	14,638	0	59,035	295,167	0	0	202,600	16,202	0	102	38	600,475	1.6
1991	384,859	0	640	22,371	17,118	145,925	36,123	0	393,249	482,187	0	19	158,923	5,779	64	2,796	112	1,265,306	3.3
1992	344,184	0	4,591	2,578	9,900	65,889	24,694	205	10,135	200,817	2,188	2,685	230,460	19,788	1,983	6,010	112	582,035	1.7
1993	286,170	0	0	3,093	3,678	2,504	16,283	400	176,539	409,718	516	8,075	138,504	7,591	344	5,426	0	772,671	2.7
1994	380,181	0	465	42,711	7,275	555,246	35,908	17,036	338,728	344,937	546	79	102,628	7,224	401	1,737	0	1,454,921	3.8
1995	317,832	0	0	4,711	4,707	101,292	18,181	516	53,759	227,822	3,186	0	240,294	22,068	1,125	6,135	0	683,795	2.2
1996	337,155	0	269	1,770	17,050	16,902	8,589	332	93,851	198,161	364	0	143,934	802	291	244	0	482,559	1.4
1997	308,214	0	5	1,250	4,810	14,447	5,395	597	11,767	34,814	330	0	16,169	727	0	1,490	0	91,802	0.3
1998	427,208	62	0	4,554	597	29,683	2,929	0	12,657	97,574	1,470	602	46,305	10,818	234	4,760	40	212,288	0.5
1999	295,717	0	0	2,953	4,818	53,015	8,754	353	124,906	192,030	0	240	80,066	4,301	658	1,930	0	474,025	1.6
2000	208,651	130	0	2,261	7,074	56,453	5,858	0	40,660	148,872	148	0	26,019	893	539	2,481	0	291,390	1.4
2001	218,892	0	0	97	0	21,217	4,756	0	12,812	57,133	0	315	95,615	2,218	299	142	0	194,605	0.9
2002	229,292	0	0	499	121	13,352	4,881	141	61,713	162,634	214	1,386	67,474	189	477	311	0	313,392	1.4
2003	197,892	0	40	2,224	1,086	47,900	5,678	0	47,986	88,088	0	152	36,068	2,986	296	1,015	0	233,520	1.2
2004	275,238	0	0	2,445	3,358	24,944	5,073	152	59,544	163,974	0	625	34,630	3,192	195	0	0	298,131	1.1
2005	251,906	0	67	5,423	694	99,530	13,239	0	73,594	260,808	1,059	307	33,847	2,480	0	682	0	491,729	2.0
2006	87,780	0	0	8,645	839	110,179	16,074	0	77,324	161,777	163	317	40,897	4,379	0	0	0	0	0
2007	283,042	0	0	15,958	1,454	101,723	35,354	0	103,711	318,854	224	0	0	0	0	0	0	0	0
2008	162,888	0	0	16,912	866	66,934	11,628	0	0	0	0	0	0	0	0	0	0	0	0
2009	315,184	95	0	9,668	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2010	262,327	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	261,141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	328,254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-year average (1996–2005):																		308,344	1.2

Table 59.—Frazer Lake (Dog Salmon Creek) sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2012.

Area	Sample Size	Age										Total	
		0.2	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.2	3.3		
<i>Estimated Frazer Catch by Area</i>													
Olga, Moser, and Alitak Bay gillnet sections (257-40, -43, -41) adjusted 95% for other stocks.													
	3,516	Percent	0.2	0.0	11.1	9.4	0.0	38.7	38.7	0.1	1.5	0.2	100.0
		Numbers	285	0	13,785	11,684	17	48,055	47,971	139	1,914	239	124,091
Cape Alitak and Humpy-Deadman sections (257-10, -20, -50, -60, -70) adjusted 80% for other stocks.													
	0	Percent	0.1	0.0	12.4	6.0	0.9	46.3	32.4	0.1	1.6	0.1	100.0
		Numbers	132	8	11,602	5,596	874	43,327	30,306	88	1,476	131	93,541
Total Catch	3,516	Percent	0.2	0.0	11.7	7.9	0.4	42.0	36.0	0.1	1.6	0.2	100.0
		Numbers	417	8	25,388	17,280	891	91,382	78,277	227	3,391	371	217,631
<i>Dog Salmon Creek Escapement</i>													
	1,985	Percent	0.1	0.0	13.7	2.5	1.9	53.9	26.1	0.1	1.6	0.1	100.0
		Numbers	82	26	21,151	3,936	2,866	83,247	40,364	117	2,491	135	154,416
Total Run	5,501	Percent	0.1	0.0	12.5	5.7	1.0	46.9	31.9	0.1	1.6	0.1	100.0
		Numbers	499	34	46,539	21,217	3,757	174,630	118,641	344	5,882	506	372,047

Table 60.—Frazer Lake (Dog Salmon Creek) sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age																8yo	Total Return	Return/Spawner
		0.2	1.1	0.3	1.2	2.1	1.3	2.2	3.1	1.4	2.3	3.2	4.1	2.4	4.2	3.3				
1976	119,321	0	2,150	0	223,444	8,753	73,677	257,625	0	0	143,383	0	0	0	0	393	0	709,424	5.9	
1977	139,548	0	2,764	0	73,189	2,928	92,211	107,917	0	0	146,064	393	0	0	0	0	0	425,466	3.0	
1978	141,981	0	7,807	0	162,130	507	24,148	22,970	0	0	16,844	0	0	0	0	638	0	235,043	1.7	
1979	126,742	0	507	0	1,374	982	2,965	24,323	0	0	26,791	0	0	0	0	2,165	0	59,106	0.5	
1980	405,535	0	0	0	6,064	16,305	7,654	589,393	0	0	141,065	684	0	46	0	52	0	761,264	1.9	
1981	377,716	0	876	0	12,120	0	2,455	7,748	0	172	5,239	0	0	0	0	862	0	29,471	0.1	
1982	430,423	0	1,276	0	23,647	431	28,624	3,735	24	754	10,870	10,812	0	0	0	0	0	80,172	0.2	
1983	158,340	0	10	26	8,935	9,729	13,438	380,531	1,604	0	586,833	0	0	0	0	36,986	0	1,038,092	6.6	
1984	53,524	0	1,001	0	5,771	33,628	7,437	386,832	0	0	67,142	2,046	0	0	0	0	0	503,856	9.4	
1985	485,835	0	192	0	16,502	4,399	49,290	53,978	151	0	22,578	9,032	0	1,595	0	2,694	0	160,412	0.3	
1986	126,529	1,393	67,475	0	727,658	40,794	230,893	972,290	0	0	168,815	9,129	0	0	0	8,584	0	2,227,031	17.6	
1987	40,544	0	1,787	1,851	3,019	26,596	3,902	187,581	0	0	159,822	104	0	156	0	882	0	385,701	9.5	
1988	246,704	0	1,886	0	21,073	7,793	30,096	210,586	133	0	64,565	20,510	0	16	0	7,994	0	364,652	1.5	
1989	360,373	0	16,191	208	327,929	12,847	153,078	373,277	5,752	0	300,182	145,325	0	0	0	40,754	0	1,375,543	3.8	
1990	226,707	0	1,096	0	18,217	12,986	33,393	400,750	1,678	0	210,744	15,341	0	455	0	9,340	0	704,000	3.1	
1991	190,358	0	621	0	2,031	57,463	1,728	330,834	302	0	105,361	630	0	0	0	0	0	498,970	2.6	
1992	185,825	0	3,545	0	20,513	78,168	27,471	211,959	4,666	0	185,148	18,141	0	0	0	2,209	0	551,819	3.0	
1993	178,391	0	2,529	45	12,677	41,759	56,178	291,218	4,831	0	64,155	17,867	0	256	0	5,830	0	497,344	2.8	
1994	206,071	0	2,056	0	23,034	17,688	39,741	112,849	1,048	0	77,546	15,427	0	187	0	15,733	0	305,309	1.5	
1995	196,323	0	10,106	0	59,574	39,574	77,223	152,287	1,251	0	251,356	11,284	0	815	0	5,387	0	608,857	3.1	
1996	198,695	0	20,062	0	41,983	22,276	81,667	32,786	26	1,641	50,325	101	0	191	0	201	0	251,259	1.3	
1997	205,264	0	626	0	8,327	1,639	9,831	14,560	231	630	15,665	2,251	0	0	0	0	77	53,837	0.3	
1998	233,755	0	367	0	1,374	24,808	14,710	87,861	16,454	0	57,957	88,617	0	366	0	33,880	0	326,394	1.4	
1999	216,565	0	1,152	0	3,507	136,968	77	481,220	0	0	241,075	1,299	0	496	0	2,090	97	867,981	4.0	
2000	158,044	0	35,476	0	68,494	15,072	219,630	107,018	0	521	58,178	330	0	547	233	289	521	506,309	3.2	
2001	154,349	0	814	0	21,700	557	5,639	3,657	23,842	131	11,476	29,633	293	776	718	81,003	1,501	181,739	1.2	
2002	85,317	0	335	0	5,659	14,124	5,844	27,492	11,173	0	44,559	35,868	0	415	0	29,071	153	174,694	2.0	
2003	201,679	0	3,365	0	8,565	58,042	16,372	170,743	2,948	0	81,058	31,271	0	162	0	1,004	0	373,528	1.9	
2004	120,664	0	14,757	0	148,241	16,861	90,953	197,458	0	250	20,896	233	0	175	0	0	0	489,822	4.1	
2005	136,949	0	1,993	0	34,005	9,131	34,164	29,710	8,606	434	36,619	3,204	90	344	0	506	0	158,805	1.2	
2006	89,516	0	113	224	5,281	58,888	21,506	216,074	7,610	0	118,641	5,882	0	0	0	0	0	0	0	
2007	120,185	0	5,543	660	13,247	68,111	21,217	174,630	0	0	0	0	0	0	0	0	0	0	0	
2008	105,363	0	4,692	0	46,539	3,757	0	0	0	0	0	0	0	0	0	0	0	0	0	
2009	101,845	499	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2010	94,680	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2011	134,565	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2012	154,416	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10-Year Average (1996–2005):																		338,437	2.0	

Table 61.—South Olga Lakes (Upper Station) early-run sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2012.

Area	Sample Size	Age											Total	
		0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.2		
<i>Estimated Upper Station Early-Run Catch by Area</i>														
Olga, Moser, and Alitak Bay gillnet sections (257-40, -43, -41) adjusted 95% for other stocks.														
	3,516	Percent	0.4	0.2	0.0	10.8	9.4	0.1	0.1	39.6	37.7	0.0	1.7	100.0
		Numbers	64	34	0	1,817	1,586	17	15	6,673	6,351	0	286	16,842
Cape Alitak and Humpy-Deadman sections (257-10, -20, -50, -60, -70) adjusted 80% for other stocks.														
	0	Percent	0.2	0.1	0.3	16.3	5.7	0.1	3.0	46.7	26.4	0.0	1.1	100.0
		Numbers	37	18	59	2,919	1,018	10	535	8,341	4,722	1	199	17,858
Total Catch														
	3,516	Percent	0.3	0.2	0.2	13.6	7.5	0.1	1.6	43.3	31.9	0.0	1.4	100.0
		Numbers	101	52	59	4,735	2,604	26	551	15,014	11,073	1	484	34,700
<i>Upper Station Early Run Escapement</i>														
	1,622	Percent	0.0	0.0	0.7	21.9	2.0	0.0	5.9	53.8	15.2	0.0	0.5	100.0
		Numbers	7	0	167	5,582	507	2	1,505	13,709	3,869	2	135	25,487
Total Run														
	5,138	Percent	0.2	0.1	0.4	17.1	5.2	0.0	3.4	47.7	24.8	0.0	1.0	100.0
		Numbers	108	52	226	10,317	3,112	28	2,056	28,723	14,943	2	620	60,187

Table 62.–South Olga Lakes (Upper Station) early-run sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age															Total Return	Return/ Spawner
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	3.3	2.4		
1975	10,325	0	0	0	0	1,458	208	0	6,393	14,783	0	0	8,738	485	0	0	32,065	3.1
1976	28,567	0	0	0	133	9,722	0	0	10,438	47,090	0	0	27,139	0	0	0	94,522	3.3
1977	26,380	0	0	0	0	32,041	243	0	48,850	94,081	0	0	35,526	634	0	0	211,375	8.0
1978	66,157	0	243	243	1,809	28,948	0	0	32,354	70,735	0	0	19,660	0	37	0	154,029	2.3
1979	53,115	0	0	0	0	4,124	0	0	17,554	65,300	0	46	14,870	38	142	0	102,074	1.9
1980	37,866	0	317	0	2,341	11,937	0	0	4,000	7,165	38	0	7,259	0	25	0	33,082	0.9
1981	77,042	0	0	0	542	2,832	1,498	0	4,370	85,872	0	43	23,861	0	0	0	119,018	1.5
1982	170,610	0	2,472	234	1,006	113,439	781	0	75,684	37,220	0	360	18,131	70	0	0	249,398	1.5
1983	115,890	0	285	1,220	1,181	5,491	1,205	0	11,396	87,555	0	0	41,723	217	0	0	150,273	1.3
1984	96,798	0	109	0	3,443	2,118	66	0	1,792	46,879	0	0	14,103	113	60	0	68,683	0.7
1985	27,408	0	1,476	4	2,865	2,314	22,466	0	6,714	86,949	0	0	42,895	633	64	0	166,380	6.1
1986	100,812	0	35	5,680	449	51,361	936	0	36,048	83,179	60	18	8,248	340	408	0	186,763	1.9
1987	74,747	0	2,134	46	1,022	2,027	3,849	0	726	30,417	27	0	25,242	779	57	0	66,326	0.9
1988	56,724	0	17	0	71	82	852	0	1,607	35,640	210	206	7,282	1,072	0	0	47,038	0.8
1989	64,582	0	450	404	5,823	8,751	6,313	0	5,539	67,810	0	0	34,127	0	0	0	129,217	2.0
1990	56,159	0	1,497	578	0	6,275	3,414	0	19,145	82,269	0	0	6,839	361	6	0	120,384	2.1
1991	50,026	0	407	3,258	20,467	46,391	6,815	0	57,478	131,931	0	0	27,274	0	0	0	294,021	5.9
1992	19,076	52	2,338	223	5,878	5,959	3,583	0	3,435	24,099	0	0	7,268	0	0	0	52,835	2.8
1993	34,852	219	669	605	2,423	5,189	2,741	0	11,812	31,749	0	0	5,168	1,229	0	62	61,866	1.8
1994	37,645	0	229	994	4,887	53,607	1,320	0	7,176	33,104	0	0	17,361	570	0	0	119,248	3.2
1995	41,492	0	185	2,467	5,857	33,691	1,497	360	44,415	44,608	0	492	20,938	689	92	0	155,291	3.7
1996	58,686	0	79	177	2,723	30,487	1,973	0	81,164	51,987	4	25	15,238	281	0	0	184,138	3.1
1997	47,655	0	422	45	0	972	2,438	0	558	11,566	34	0	7,233	795	2,006	0	26,069	0.5
1998	30,713	0	0	6	0	145	6,264	0	418	45,950	0	0	16,490	8	0	0	69,281	2.3
1999	36,521	0	0	2,598	328	27,894	6,080	0	34,497	81,382	0	360	38,405	626	28	0	192,198	5.3
2000	55,761	0	780	10,912	7,338	122,434	2,623	69	59,315	40,862	69	121	9,843	139	235	28	254,768	4.6
2001	66,795	0	1,131	1,123	3,856	6,472	5,116	0	4,335	15,475	0	24	13,764	0	0	0	51,298	0.8
2002	36,802	82	532	382	574	1,295	42	36	4,890	2,815	0	0	8,604	0	0	36	19,289	0.5
2003	76,175	0	75	502	88	10,903	3,245	0	9,334	34,250	0	106	13,258	86	0	0	71,846	0.9
2004	78,487	0	191	1,553	6,398	36,836	3,258	0	25,750	32,372	0	0	4,211	0	0	0	110,570	1.4
2005	60,349	0	233	281	0	5,884	3,446	0	3,904	42,706	64	0	9,733	130	0	2	66,385	1.1
2006	24,997	0	0	269	0	1,815	2,367	0	4,513	24,439	5	28	14,943	620				
2007	31,895	0	71	26	136	3,578	4,849	0	3,112	28,723	0							
2008	38,800	0	0	978	52	10,317	2,056											
2009	34,585	0	108	226														
2010	42,060	0																
2011	28,759																	
2012	25,487																	
10-Year Average (1996–2005):																	104,584	2.1

Table 63.—South Olga Lakes (Upper Station) late-run sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2012.

Area	Sample Size		Age												Total	
			0.1	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1		3.2
<i>Estimated Upper Station Late-Run Catch by Area</i>																
Olga, Moser, and Alitak Bay gillnet sections (257-40, -43, -41) adjusted 95% for other stocks.																
	3,642	Percent	0.0	1.3	0.5	0.0	15.2	10.8	0.1	0.0	68.7	0.0	0.0	0.0	3.4	100.0
		Numbers	0	561	207	0	6,461	4,596	56	0	29,226	0	0	0	1,463	42,571
Cape Alitak and Humpy-Deadman sections (257-10, -20, -50, -60, -70) adjusted 80% for other stocks.																
	0	Percent	0.0	1.1	0.3	0.5	17.6	6.8	0.1	2.4	66.8	1.2	0.0	0.0	3.1	100.0
		Numbers	4	248	59	104	3,840	1,481	15	527	14,545	271	0	3	665	21,762
Total Catch																
	3,642		0.0	1.3	0.4	0.2	16.0	9.4	0.1	0.8	68.0	0.4	0.0	0.0	3.3	100.0
			4	809	266	104	10,302	6,078	70	527	43,772	271	0	3	2,127	64,332
<i>Upper Station Late Run Escapement</i>																
	1,768	Percent	0.0	1.0	0.1	1.0	20.1	2.8	0.0	4.8	65.0	2.5	0.0	0.0	2.7	100.0
		Numbers	54	1,427	83	1,423	30,039	4,208	4	7,234	97,101	3,717	4	43	3,988	149,325
Total Run																
	5,410	Percent	0.0	1.0	0.2	0.7	18.9	4.8	0.0	3.6	65.9	1.9	0.0	0.0	2.9	100.0
		Numbers	58	2,236	349	1,527	40,340	10,286	74	7,761	140,872	3,988	4	46	6,115	213,657

Table 64.–South Olga Lakes (Upper Station) late-run sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age															Total Return	Return/Spawner
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	3.3	2.4		
1975	74,456	901	3,021	0	0	61,142	1,132	0	36,479	76,157	0	0	5,228	0	0	0	184,060	2.5
1976	48,650	0	10,190	0	36,479	38,399	2,560	0	11,501	141,154	0	0	10,336	940	0	0	251,559	5.2
1977	49,001	0	640	0	3,137	52,279	1,046	0	66,714	312,897	0	0	9,732	0	0	0	446,444	9.1
1978	38,126	0	82,601	1,046	90,205	134,367	4,698	0	55,146	217,342	0	0	26,755	2,638	0	0	614,798	16.1
1979	134,579	0	31,947	0	63,256	71,366	0	0	103,020	339,950	0	736	10,850	360	280	0	621,765	4.6
1980	77,718	0	124,890	0	56,178	35,951	2,131	0	21,758	55,472	399	0	16,555	965	223	0	314,522	4.0
1981	118,900	0	1,294	0	17,853	157,249	12,280	1,007	149,158	345,506	0	0	14,809	0	0	879	700,035	5.9
1982	306,161	0	644,017	5,129	324,600	364,312	5,029	117	92,824	231,963	0	0	5,168	2,042	0	0	1,675,201	5.5
1983	179,741	4,867	182,514	0	135,177	23,242	1,682	0	53,195	92,799	0	0	30,036	0	1,488	0	525,000	2.9
1984	239,608	3,012	37,733	528	89,721	187,451	5,064	0	21,543	224,033	0	0	23,712	4,642	0	0	597,438	2.5
1985	408,409	2,313	562,757	1,958	309,775	34,924	12,374	0	40,759	179,839	0	578	45,289	6,140	0	0	1,196,706	2.9
1986	367,922	1,449	72,415	1,953	94,380	291,815	5,610	678	116,039	451,917	0	0	17,721	1,579	1,289	6	1,056,851	2.9
1987	156,274	0	68,016	495	113,821	12,899	127	0	17,053	104,995	0	225	27,470	15,072	39	0	360,212	2.3
1988	247,647	0	9,222	216	27,793	76,583	1,000	0	71,330	80,102	177	133	4,037	1,244	0	0	271,836	1.1
1989	221,706	401	169,158	1,125	85,530	83,807	12,864	142	53,928	184,067	308	0	21,693	0	0	0	613,023	2.8
1990	198,287	1,432	56,992	3,904	115,907	27,747	7,728	444	17,591	237,284	0	0	4,315	0	67	0	473,411	2.4
1991	242,860	6,744	51,810	4,858	163,283	73,541	6,484	160	44,507	712,676	31	0	20,546	0	0	0	1,084,640	4.5
1992	199,067	4,913	61,018	1,108	15,733	58,923	12,611	79	6,302	279,349	0	0	7,189	156	192	26	447,599	2.2
1993	187,229	5,186	46,015	5,688	114,817	35,842	45,256	444	10,769	199,820	191	278	27,883	5,350	0	0	497,539	2.7
1994	221,675	1,417	10,206	6,322	23,167	90,488	17,439	44	25,603	293,322	80	0	6,069	968	0	0	475,125	2.1
1995	203,659	233	3,020	3,340	3,349	179,562	24,492	0	13,017	251,855	0	254	14,264	307	247	20	493,960	2.4
1996	235,727	277	1,972	6,536	1,335	35,606	4,057	0	15,478	88,856	121	1	4,856	2,282	0	1,500	162,877	0.7
1997	230,793	0	347	0	916	2,842	11,901	0	1,932	129,206	1,984	130	8,502	17,554	1,942	0	177,256	0.8
1998	171,214	0	0	89	0	2,511	13,979	0	3,281	219,890	25,325	0	13,190	890	0	0	279,155	1.6
1999	210,016	0	279	2,323	672	80,315	15,939	0	20,091	313,886	19	346	40,906	5,360	465	9	480,610	2.3
2000	176,783	96	34,433	5,197	36,394	122,248	4,045	98	30,388	181,491	0	31	16,677	986	187	165	432,436	2.4
2001	74,408	0	522	215	1,701	5,696	8,310	0	7,078	77,172	0	78	9,900	300	0	0	110,971	1.5
2002	150,349	411	2,421	3,965	7,179	94,543	8,085	0	21,609	95,473	0	0	13,730	0	0	235	247,650	1.6
2003	200,894	43	888	1,667	337	51,307	7,446	0	16,131	256,511	0	357	15,308	548	0	0	350,545	1.7
2004	177,108	669	5,264	1,535	24,845	99,160	7,094	0	29,761	255,957	181	0	5,577	1,457	185	0	431,685	2.4
2005	156,401	139	2,828	2,423	3,067	20,933	20,082	0	6,256	171,458	153	0	8,694	3,150	0	4	239,187	1.5
2006	153,153	0	931	1,561	177	10,327	8,207	0	5,267	126,317	182	74	3,988	6,115				
2007	149,709	218	59	787	287	12,235	11,858	0	10,286	140,872	46							
2008	184,856	0	0	2,217	349	40,340	7,761											
2009	161,736	376	2,236	1,527														
2010	141,139	58																
2011	101,893																	
2012	149,325																	
10-Year Average (1996–2005):																	291,237	1.7

Table 65.–Kodiak Salmon Test Fishery Summary, 2012.

Date	Start Time	Set #	Area	Weather	Wind	Seas	Duration	Tide Status	Catch		
									Sockeye	Chum	Chinook*
6/6/2012	6:37 AM	1	Cape Uyak	Sunny	Var 5-10	1'	27 minutes	ebb	240	0	0
6/6/2012	7:59 AM	2	Cape Uyak	Sunny	Var 5-10	1'	30 minutes	ebb	335	4	0
6/6/2012	9:00 AM	3	Cape Uyak	Sunny	Var 5-10	1'	30 minutes	ebb	243	1	1
6/6/2012	10:15 AM	4	Cape Uyak	Sunny	Var 5-10	1'	30 minutes	slack/switch	524	2	1
6/6/2012	11:30 AM	5	Cape Uyak	Sunny	Var 5-10	1'	30 minutes	flood	37	0	0
6/6/2012	12:51 PM	6	Cape Uyak	Sunny	Var 5-10	1'	30 minutes	flood	235	4	0
6/6/2012	2:00 PM	7	Cape Uyak	Sunny	Var 5-10	1'	30 minutes	flood	170	1	2
6/6/2012	3:10 PM	8	Cape Uyak	Sunny	Var 5-10	1'	30 minutes	flood	96	1	0
6/6/2012	4:50 PM	9	Cape Uyak	Sunny	Var 5-10	1'	30 minutes	slack/switch	184	0	0
6/7/2012	5:40 AM	1	Cape Uyak	Overcast, light rain	NW 10	1'-2'	30 minutes	ebb	52	0	0
6/7/2012	6:53 AM	2	Cape Uyak	Overcast, light rain	NW 10	1'	30 minutes	ebb	140	0	0
6/7/2012	8:09 AM	3	Cape Uyak	Overcast, light rain	NW 10	1'	28 minutes	ebb	12	0	0
6/7/2012	9:15 AM	4	Cape Uyak	Overcast, light rain	NW 10	1'	30 minutes	ebb	94	0	0
6/7/2012	10:25 AM	5	Cape Uyak	Overcast, light rain	NW 10	1'	30 minutes	ebb	0	0	0
6/7/2012	11:30 AM	6	Cape Uyak	Overcast, light rain	NW 10	1'	27 minutes	slack/switch	88	2	0
6/7/2012	12:50 PM	7	Cape Uyak	Overcast, light rain	NW 10	1'	30 minutes	flood	158	0	0
6/7/2012	1:55 PM	8	Cape Uyak	Overcast, light rain	NW 10	1'	45 minutes	flood	52	0	0
Total									2,660	15	4

Note: Chinook salmon were immediately released back into the water. The number of fish in the table differs from the fish ticket numbers. The number of fish on the fish ticket are determined using average weights from a subsample of fish. The number presented in this table are based on the number of fish counted by department staff aboard the test fishery vessel.

Table 66.—Estimated age composition of the Kodiak Salmon Test Fishery sockeye salmon catch, 2012 (statistical area: 255-20).

Statistical Week	Sample Size		Age											Total		
			0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1		3.2	3.3
23–24 6/6-6/7	985	Percent	0.2	0.5	0.1	0.2	4.0	9.5	0.3	1.4	68.8	7.3	0.5	5.9	1.2	100.0
		Numbers	6	14	3	6	109	262	8	39	1,889	201	14	162	33	2,744
Total	985	Percent	0.2	0.5	0.1	0.2	4.0	9.5	0.3	1.4	68.8	7.3	0.5	5.9	1.2	100.0
		Numbers	6	14	3	6	109	262	8	39	1,889	201	14	162	33	2,744

Note: The number of fish in this table is from the fish ticket numbers. The number of fish on the fish ticket are determined using average weights from a subsample of fish. This number is different than the number of fish counted by department staff aboard the test fishery vessel.

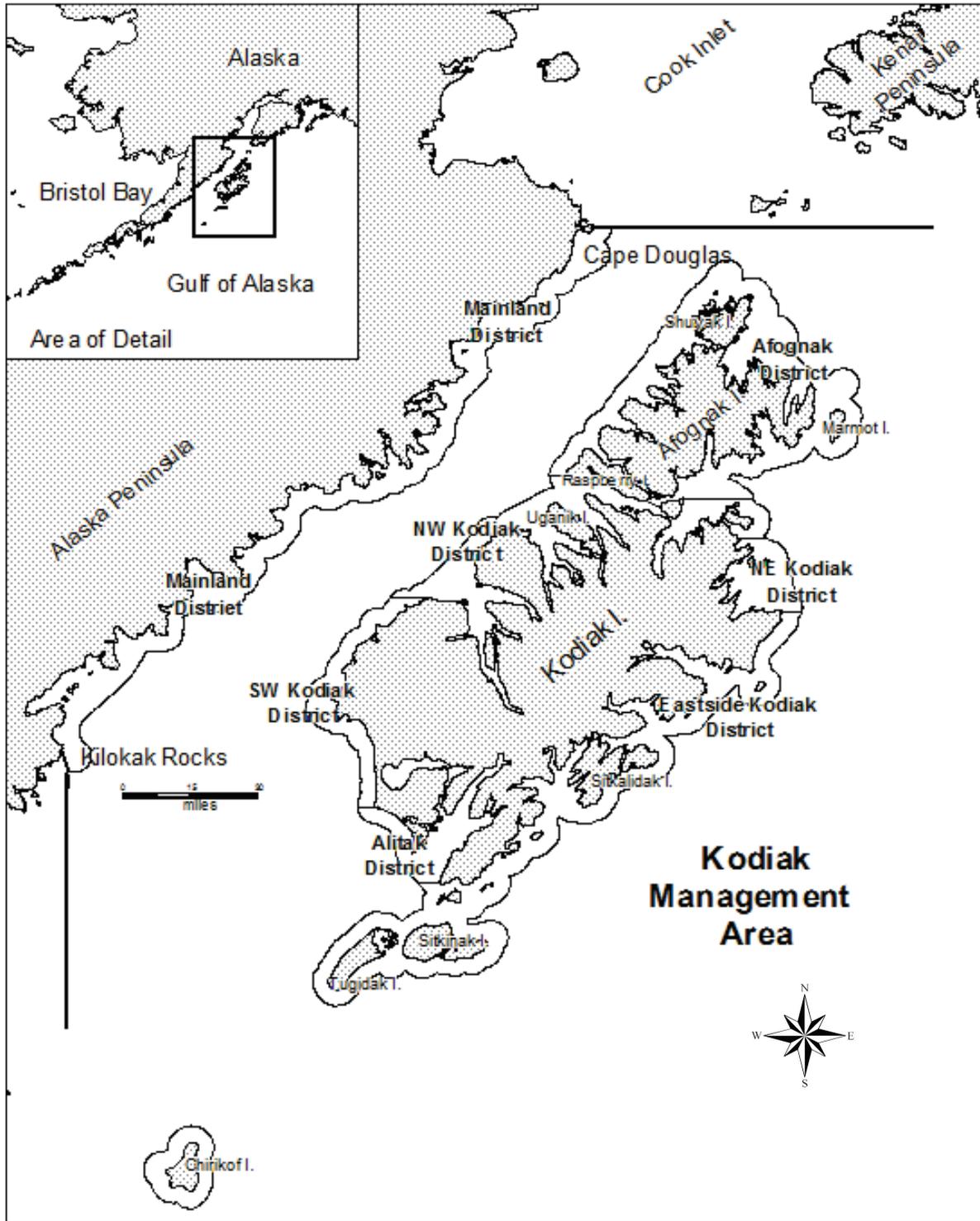


Figure 1.—Kodiak Management Area commercial salmon fishing districts.

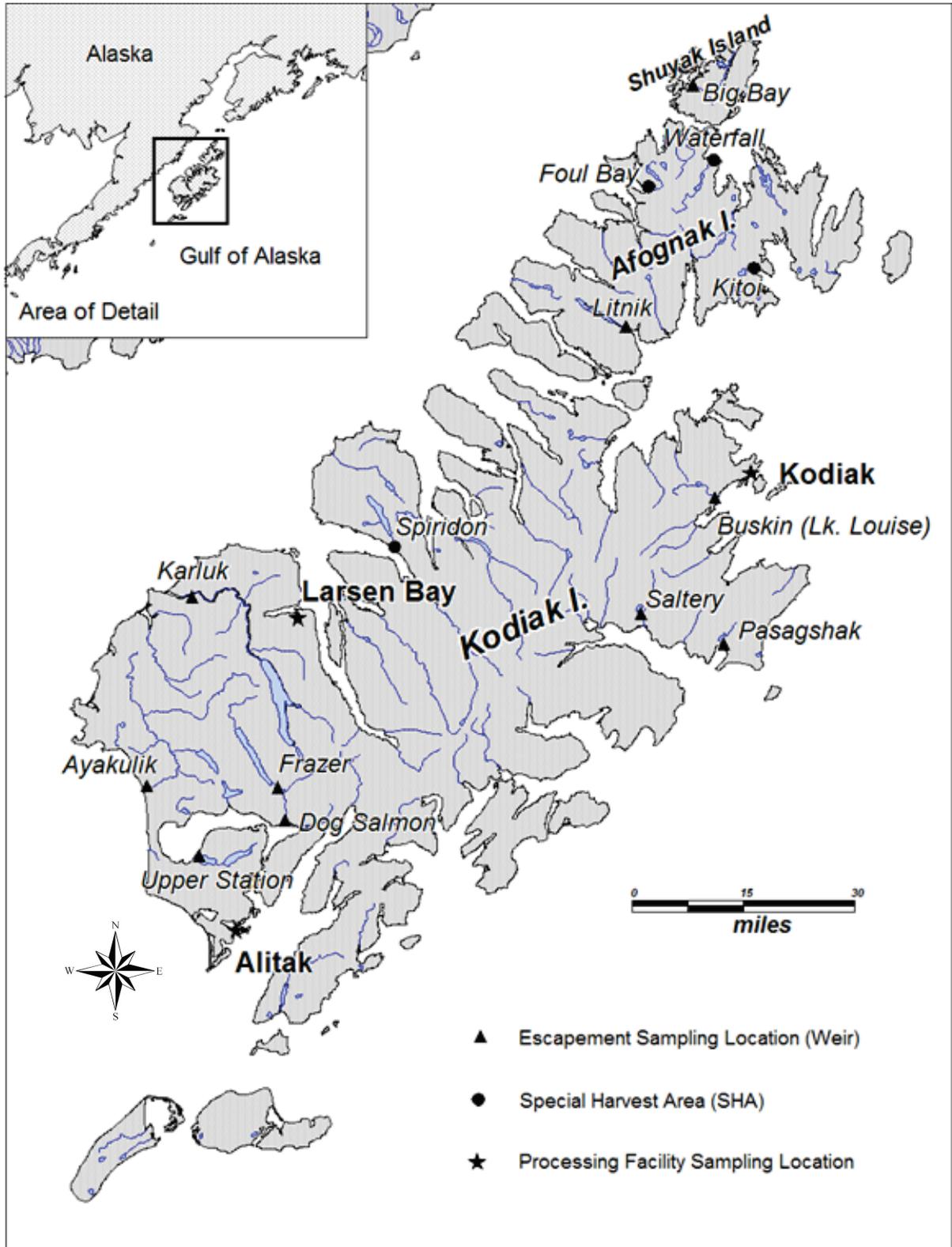


Figure 2.—Salmon escapement, special harvest areas, and processing facility sampling locations in the Kodiak Management Area, 2012.

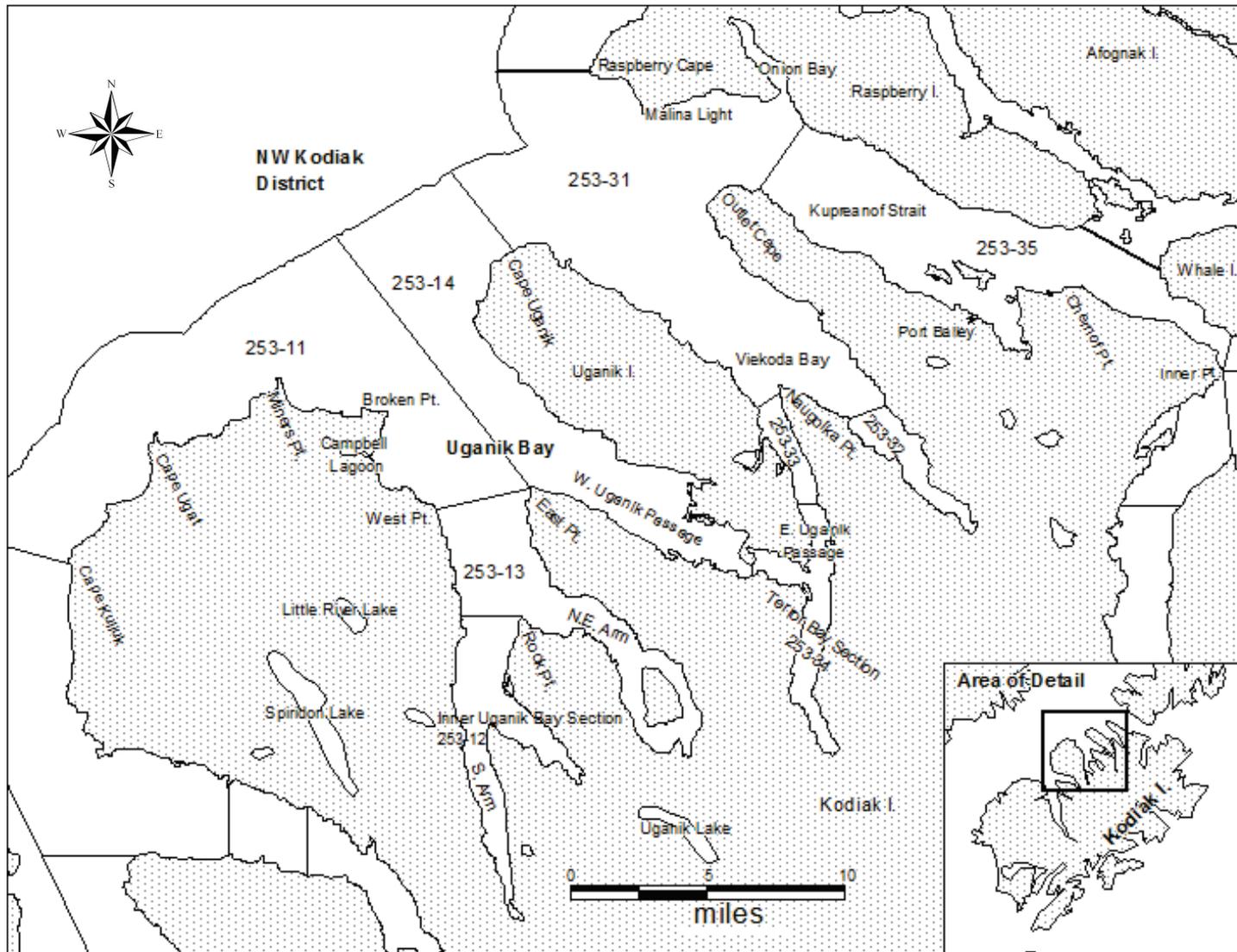


Figure 3.—Kodiak Management Area commercial salmon statistical areas sampled to represent Uganik/Viekoda/Kupreanof harvest within the Northwest Kodiak District.

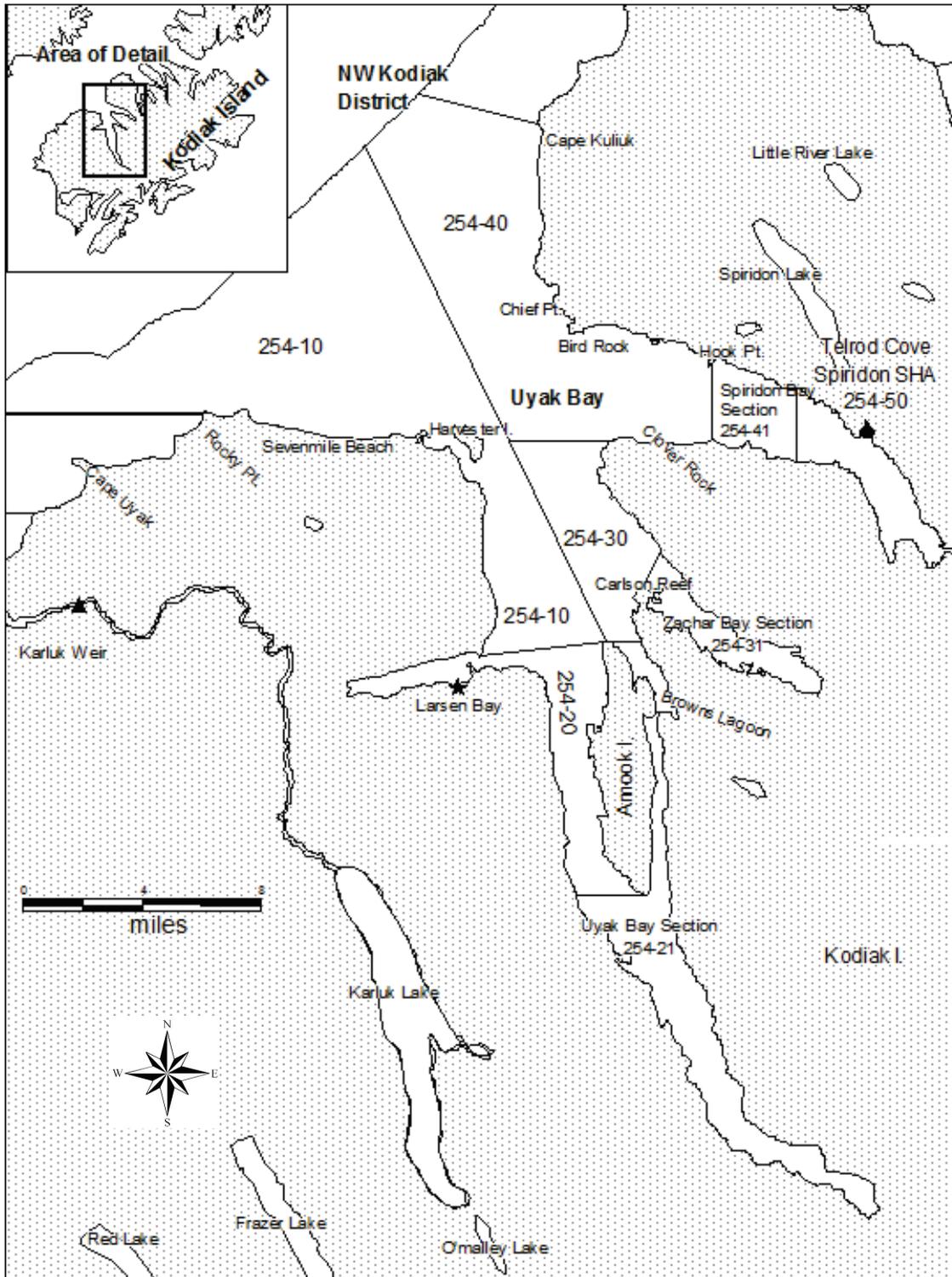


Figure 4.–Kodiak Management Area commercial salmon statistical areas sampled to represent Uyak Bay harvest within the Northwest Kodiak District.

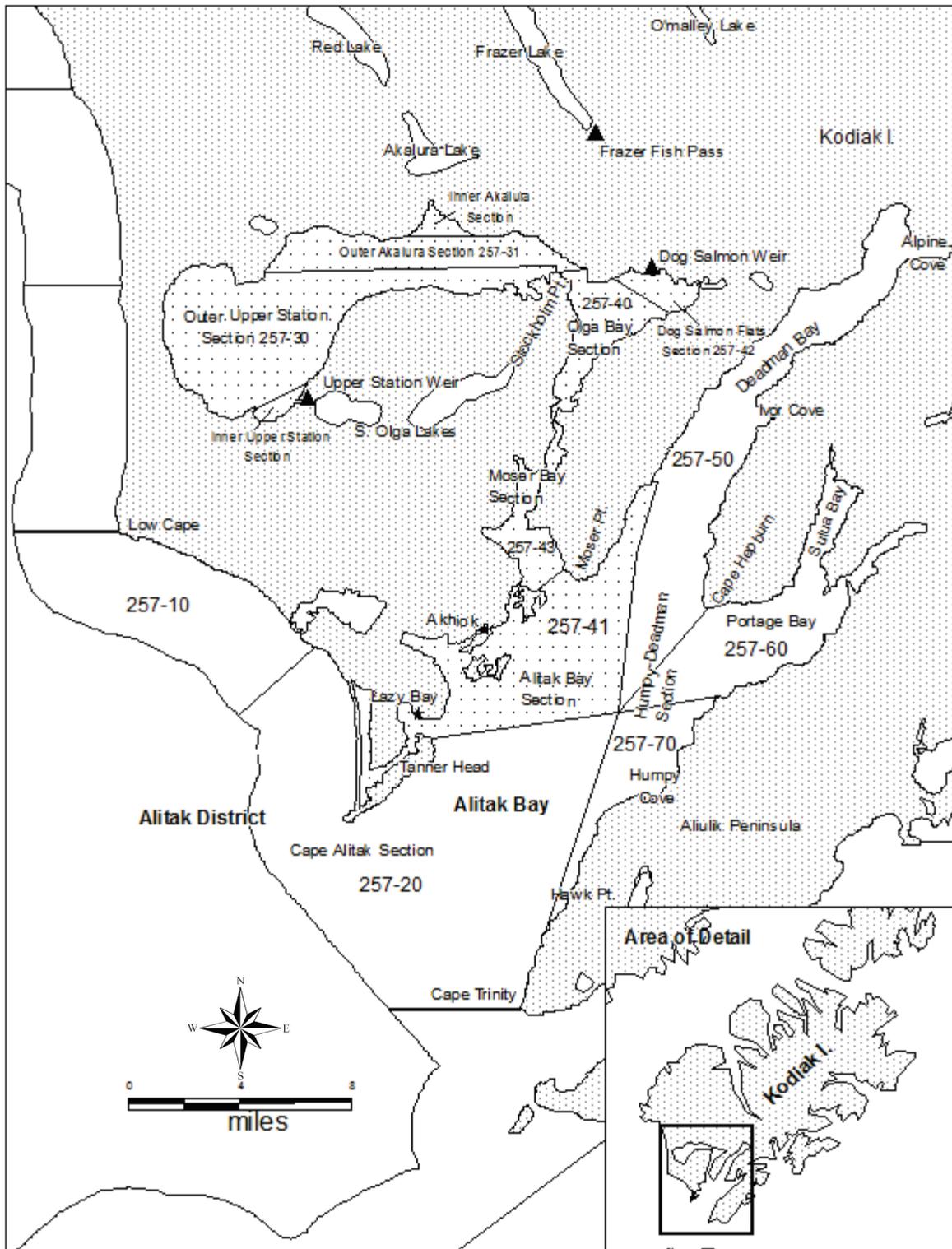


Figure 5.—Kodiak Management Area commercial salmon statistical areas sampled to represent Moser/Olga gillnet (dotted) and Alitak seine area harvest.

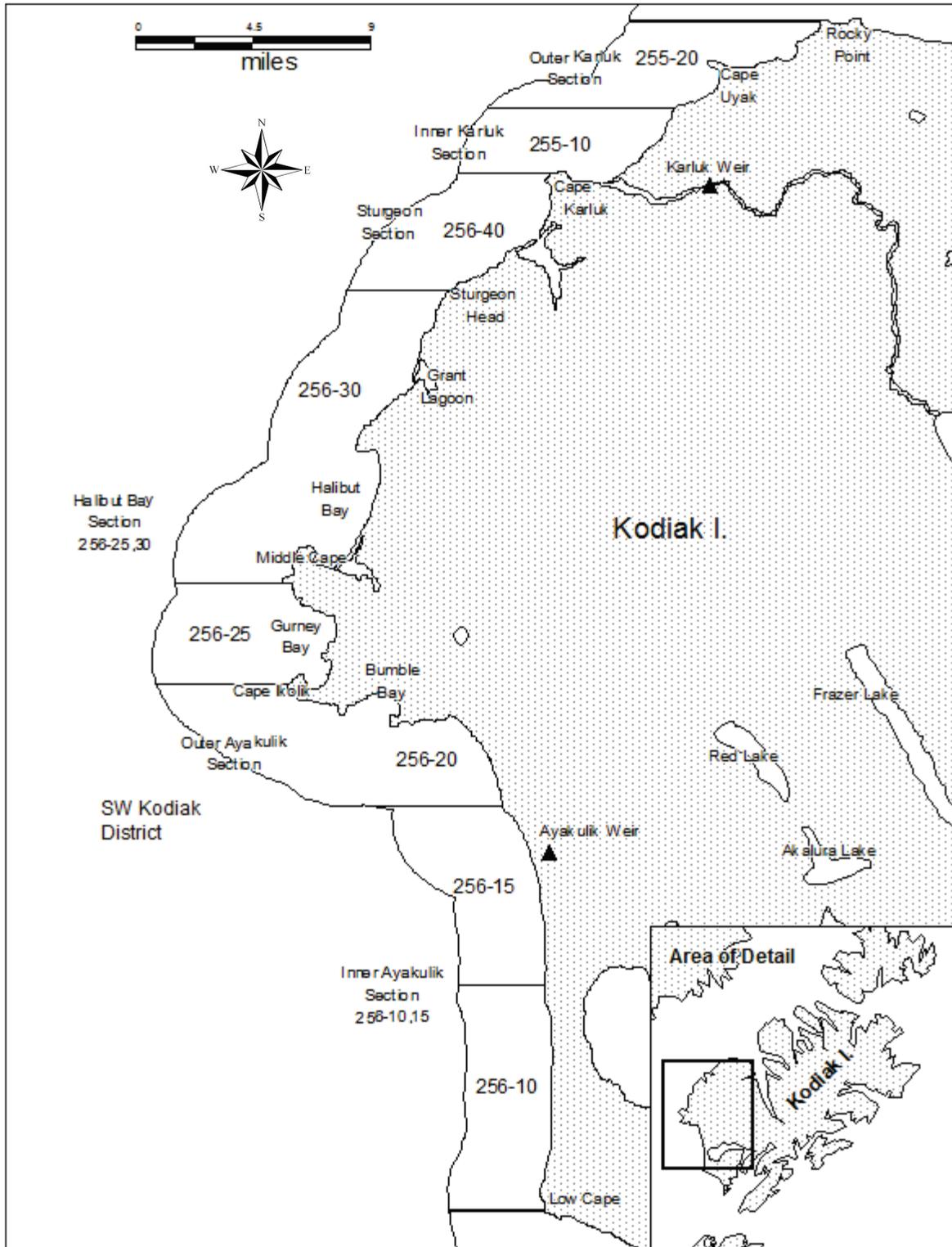


Figure 6.—Kodiak Management Area commercial salmon statistical areas sampled to represent the Southwest Kodiak District (Karluk/Sturgeon, Halibut/Gurney bays, and Ayakulik areas) harvests.

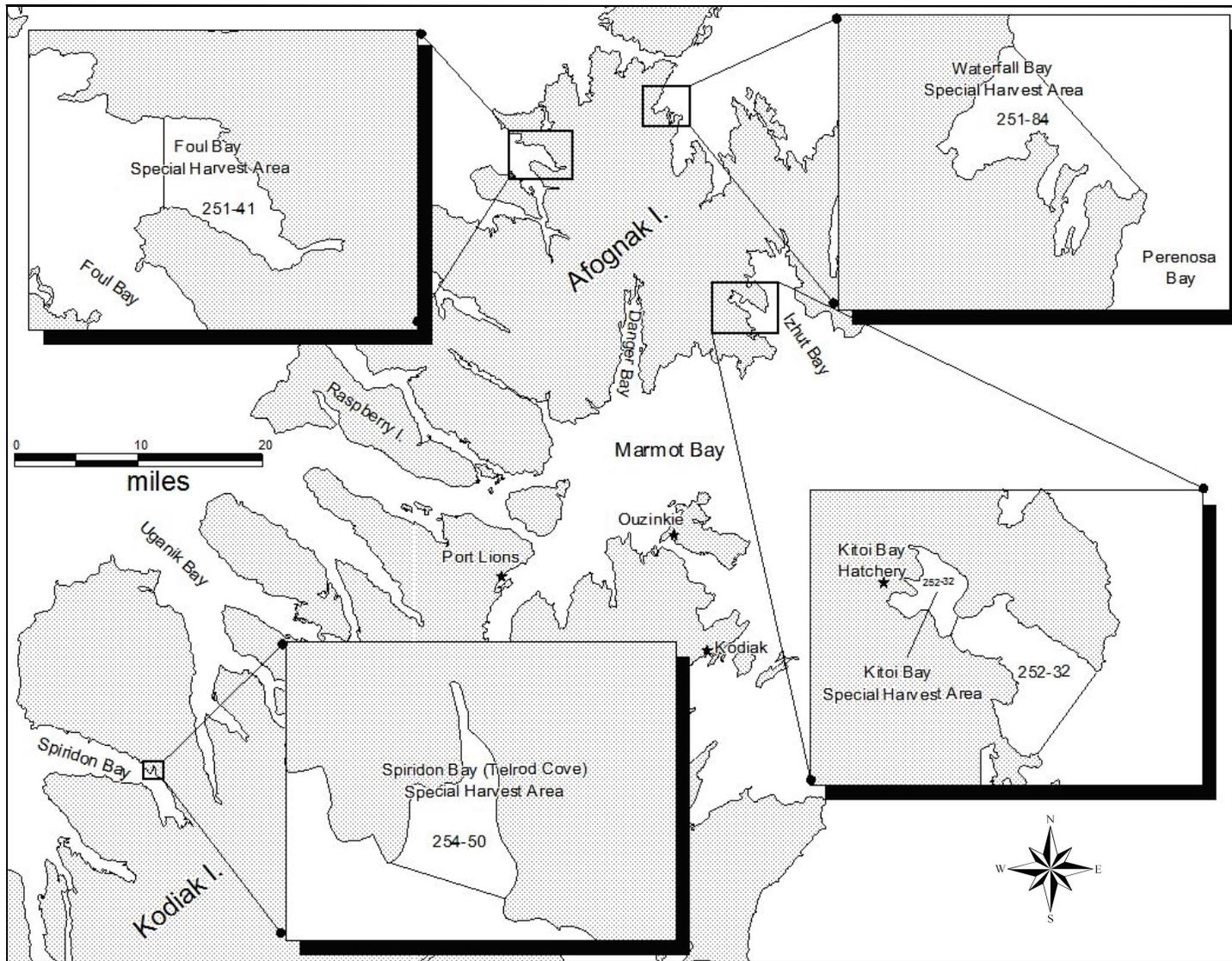


Figure 7.—Kodiak Management Area commercial salmon statistical areas sampled to represent Special Harvest Areas (SHA) at Waterfall, Foul, Kitoi, and Spiridon bays.

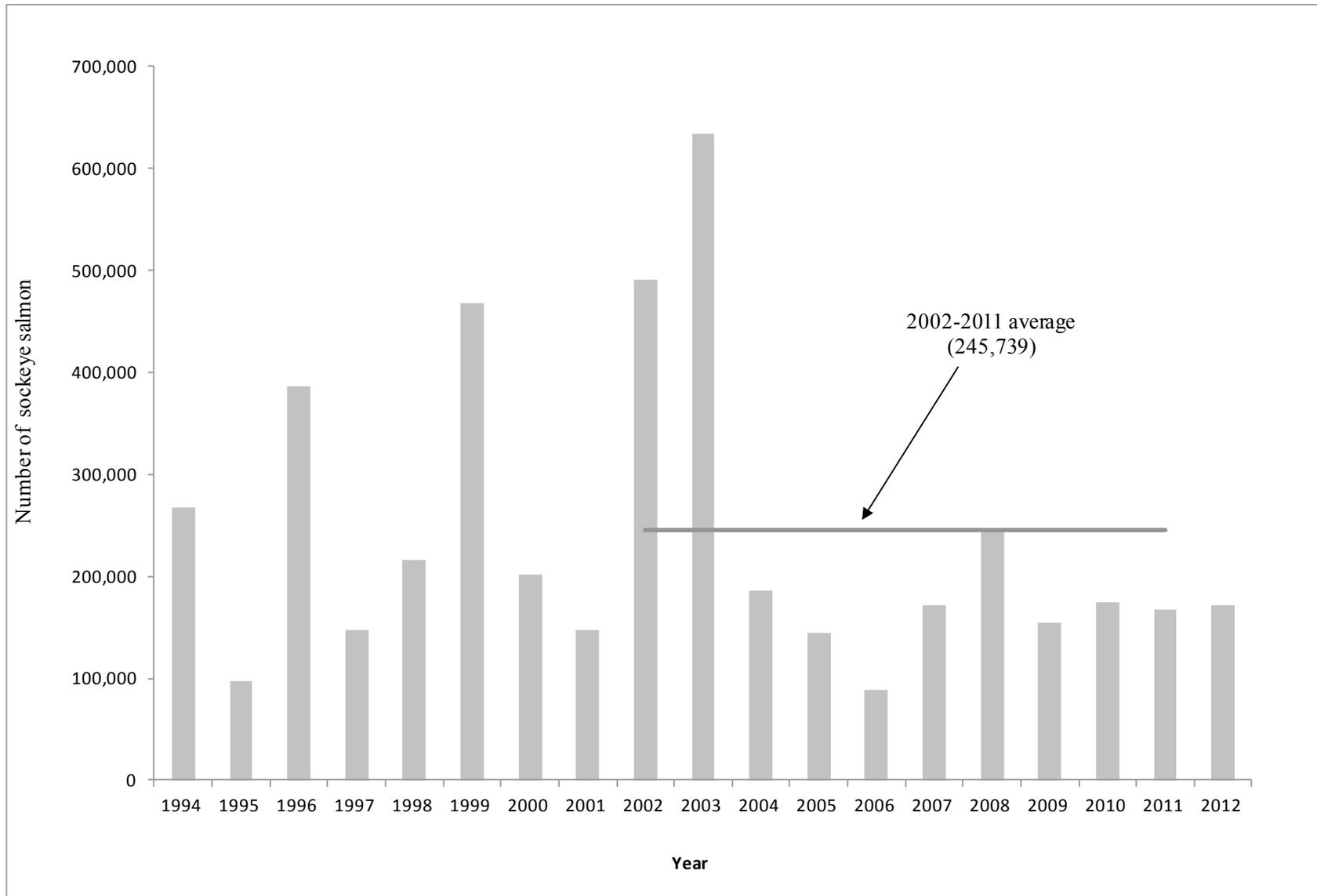


Figure 8.—Spiridon Lake (SBSHA) sockeye salmon total run estimates, 1994–2012, and the recent 10-year average estimated run (2002–2011).

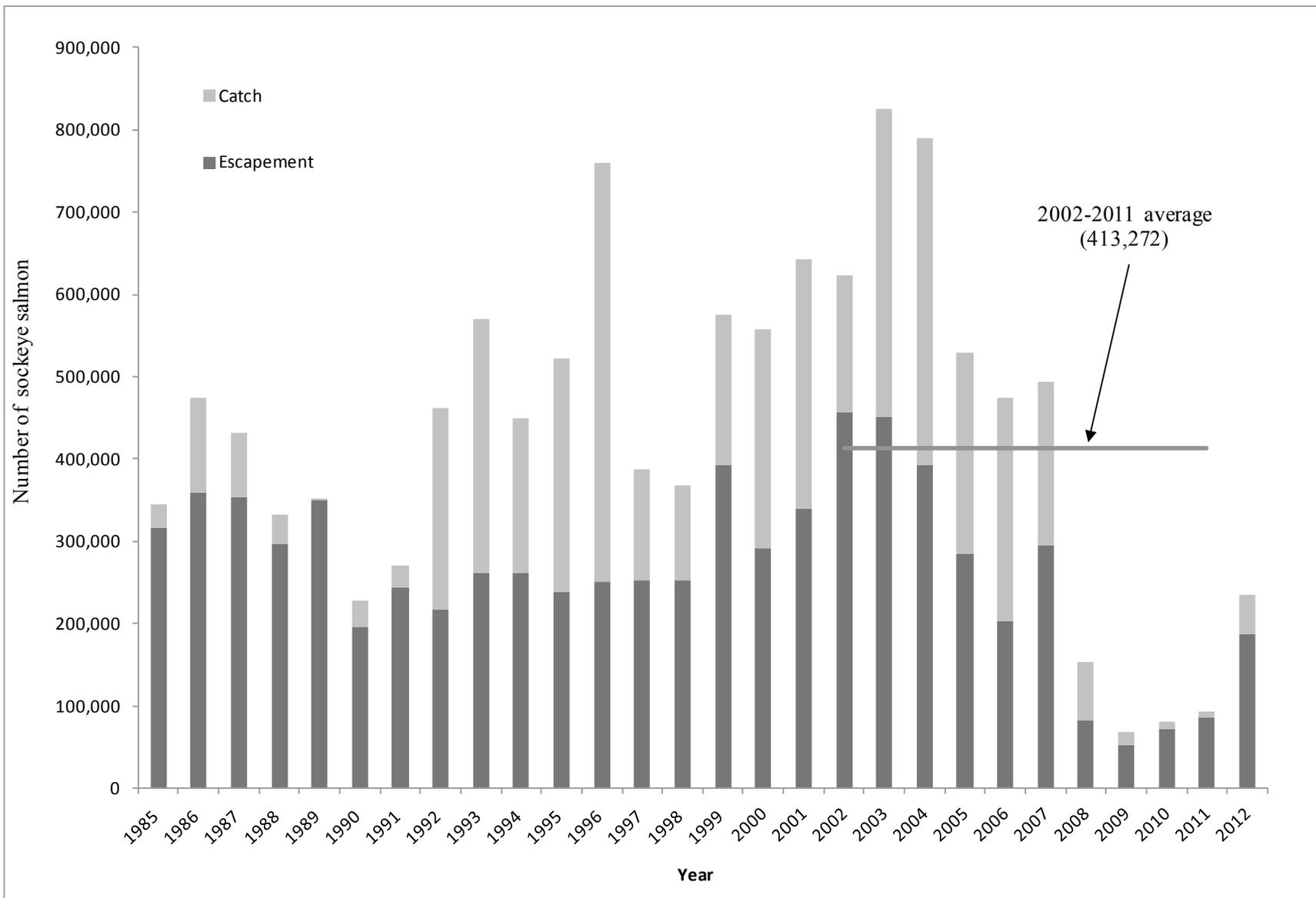


Figure 9.—Karluk Lake early-run sockeye salmon escapement and catch estimates, 1985–2012, and the recent 10-year average estimated total run (average catch and escapement combined, 2002–2011).

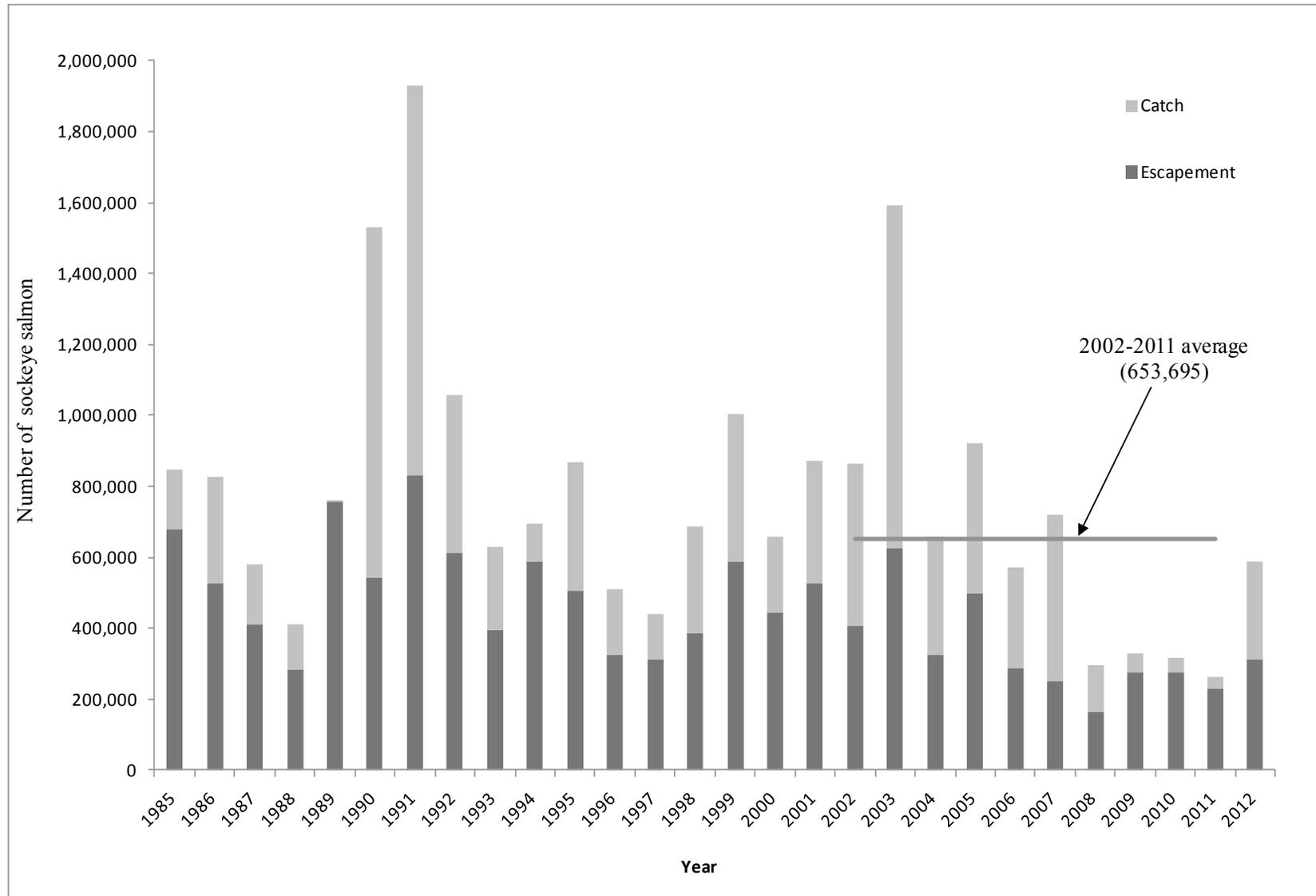


Figure 10.—Karluk Lake late-run sockeye salmon escapement and catch estimates, 1985–2012, and the recent 10-year average estimated total run (average catch and escapement combined, 2002–2011).

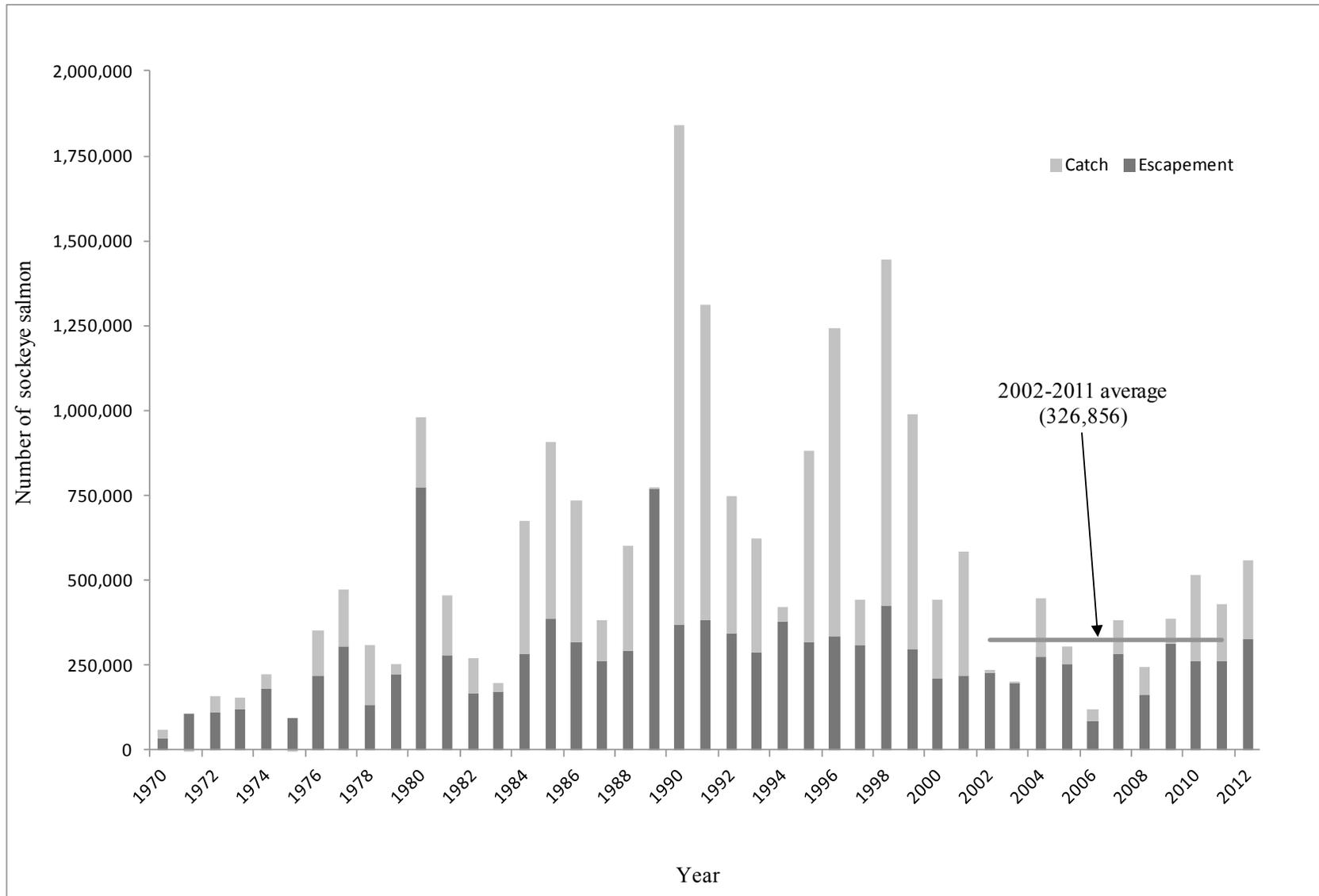


Figure 11.—Ayakulik River (Red Lake) sockeye salmon escapement and catch estimates, 1970–2012, and the recent 10-year average estimated total run (average catch and escapement combined, 2002–2012).

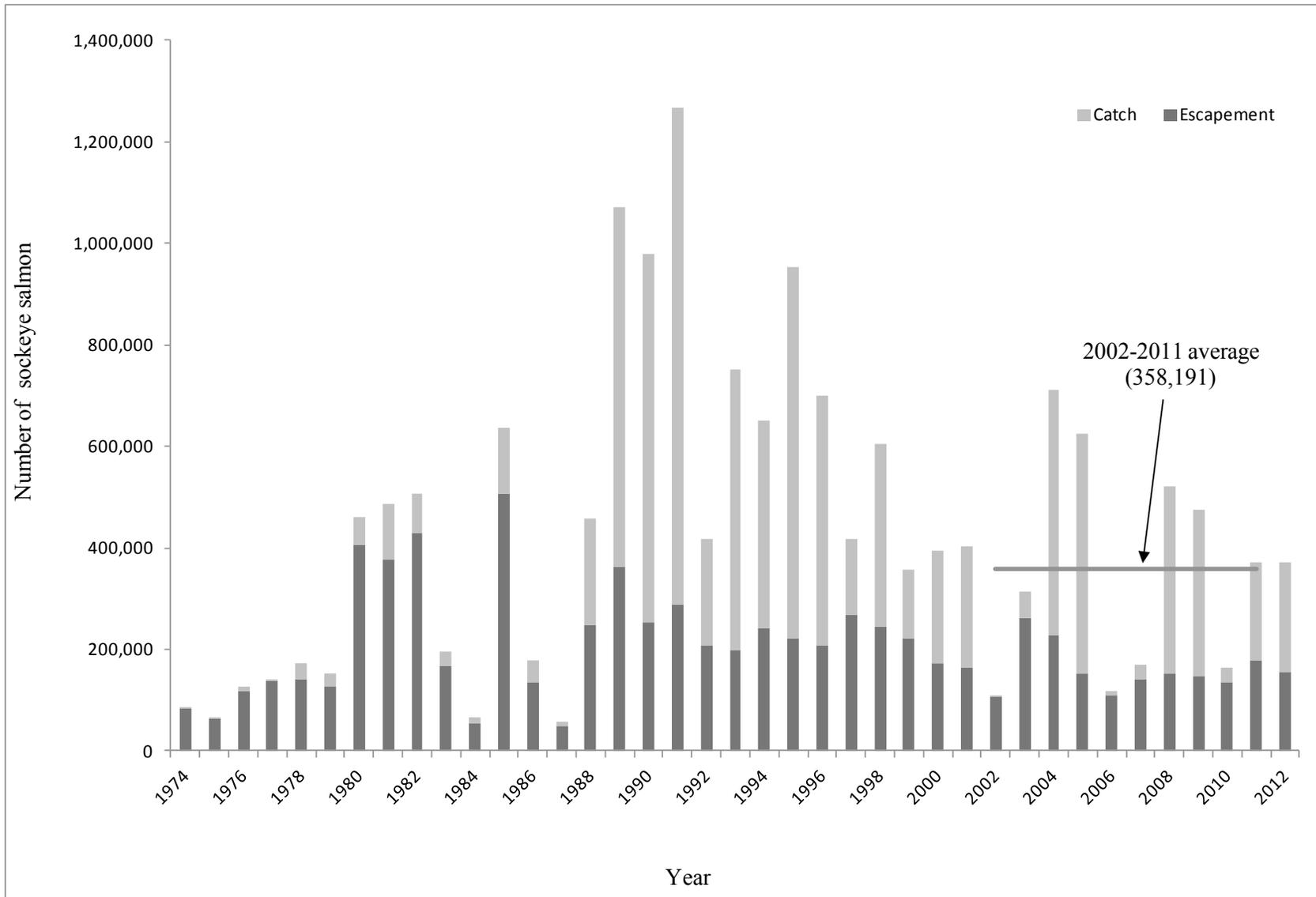


Figure 12.—Frazer Lake sockeye salmon escapement and catch estimates, 1974–2012, and the recent 10-year average estimated total run (average catch and escapement combined, 2002–2011).

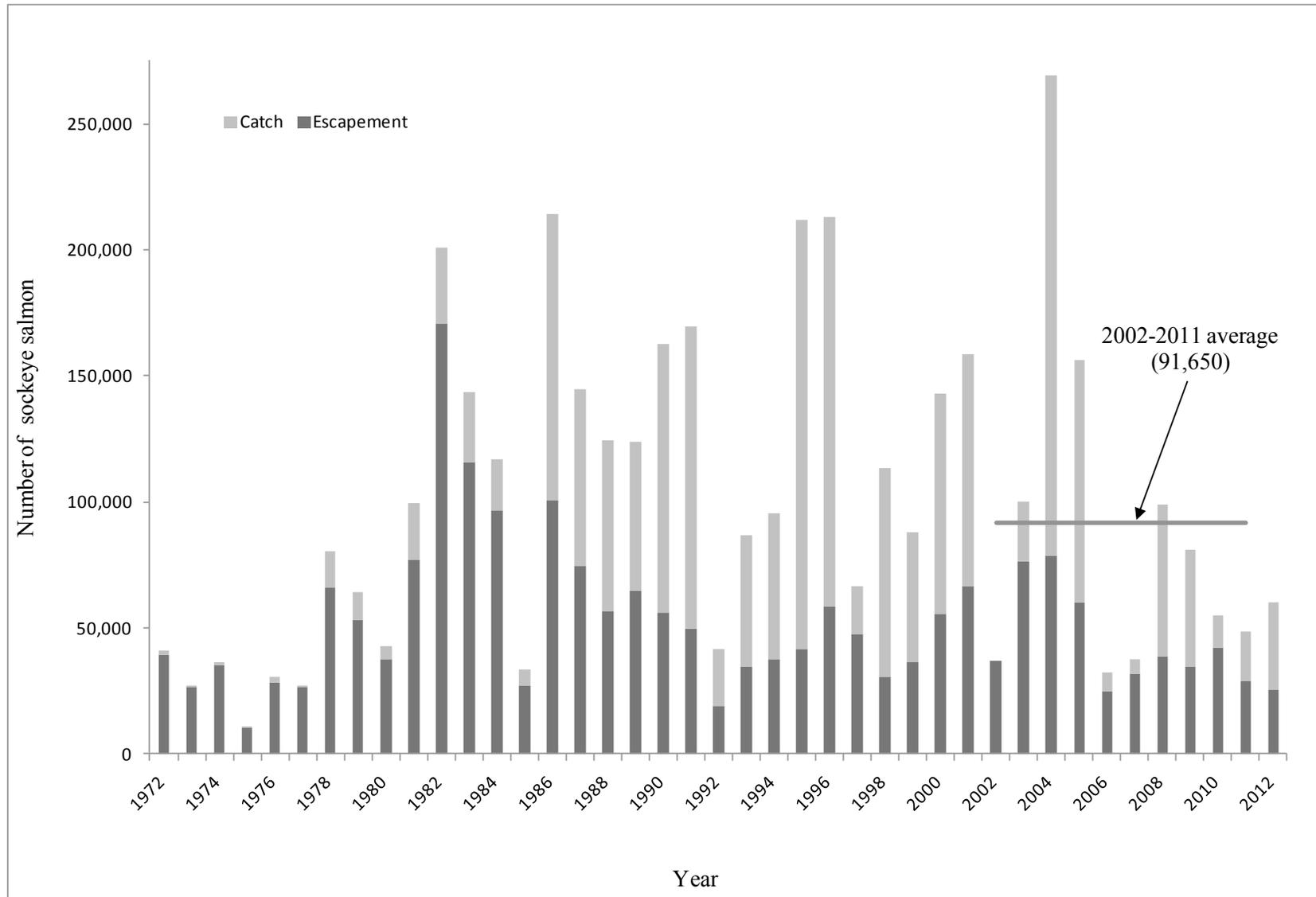


Figure 13.—South Olga Lakes (Upper Station) early-run sockeye salmon escapement and catch estimates, 1972–2012, and the recent 10-year average estimated total run (average catch and escapement combined, 2002–2011).

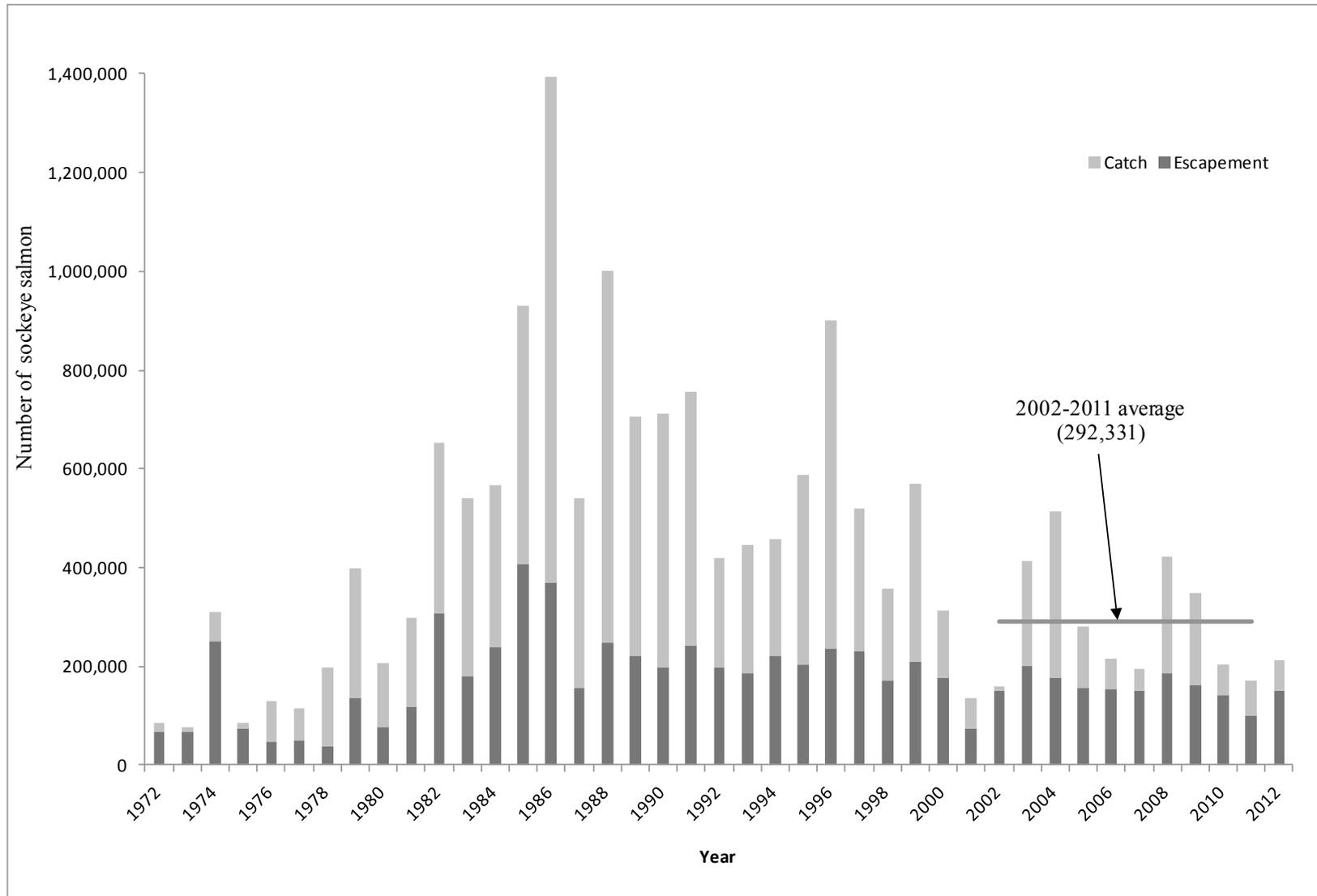


Figure 14.—South Olga Lakes (Upper Station) late-run sockeye salmon escapement and catch estimates, 1972–2012, and the recent 10-year average estimated total run (average catch and escapement combined, 2002–2012).

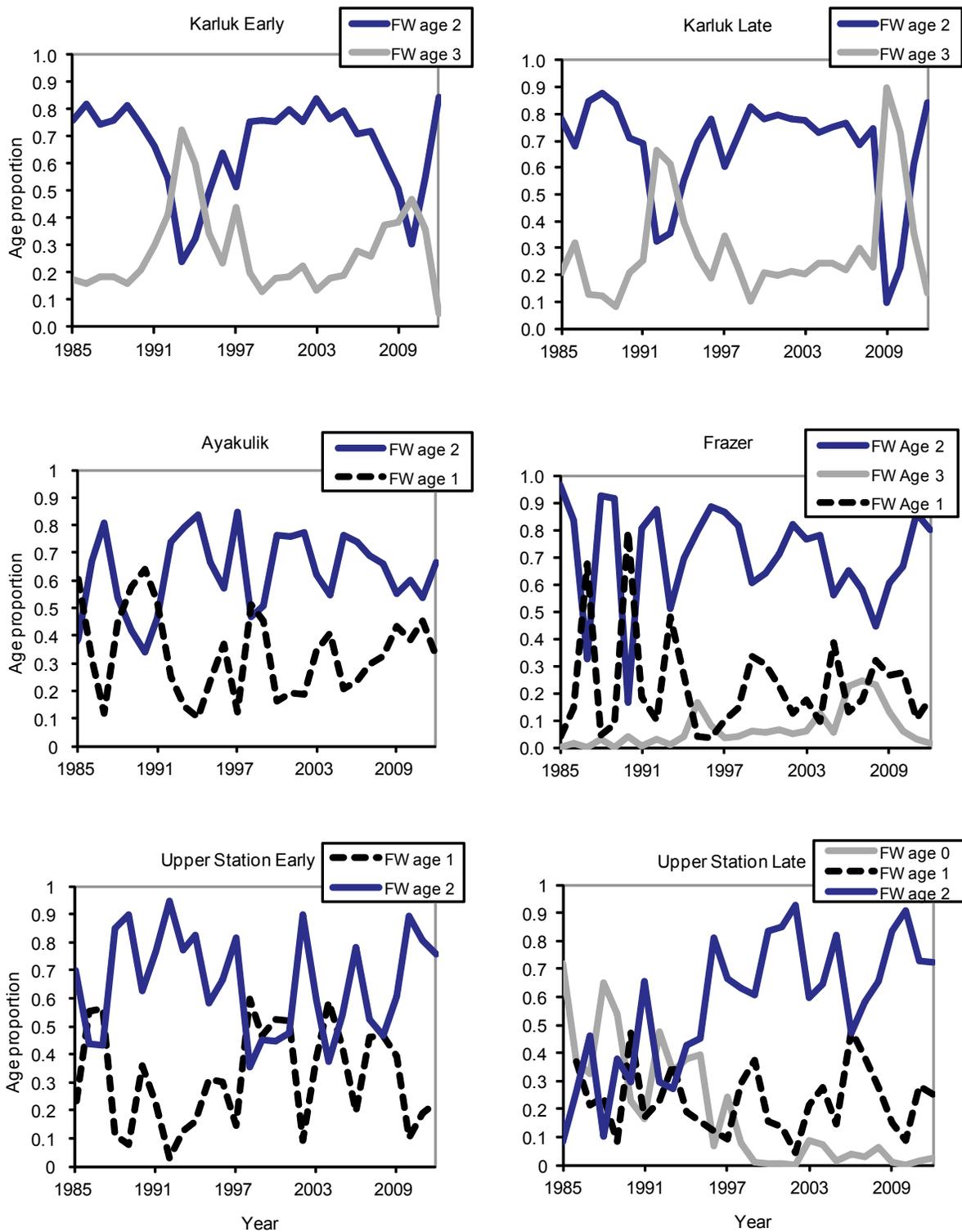


Figure 15.—Historical trends in the proportion of freshwater ages comprising the major Kodiak Island sockeye salmon annual runs 1985 to 2012.

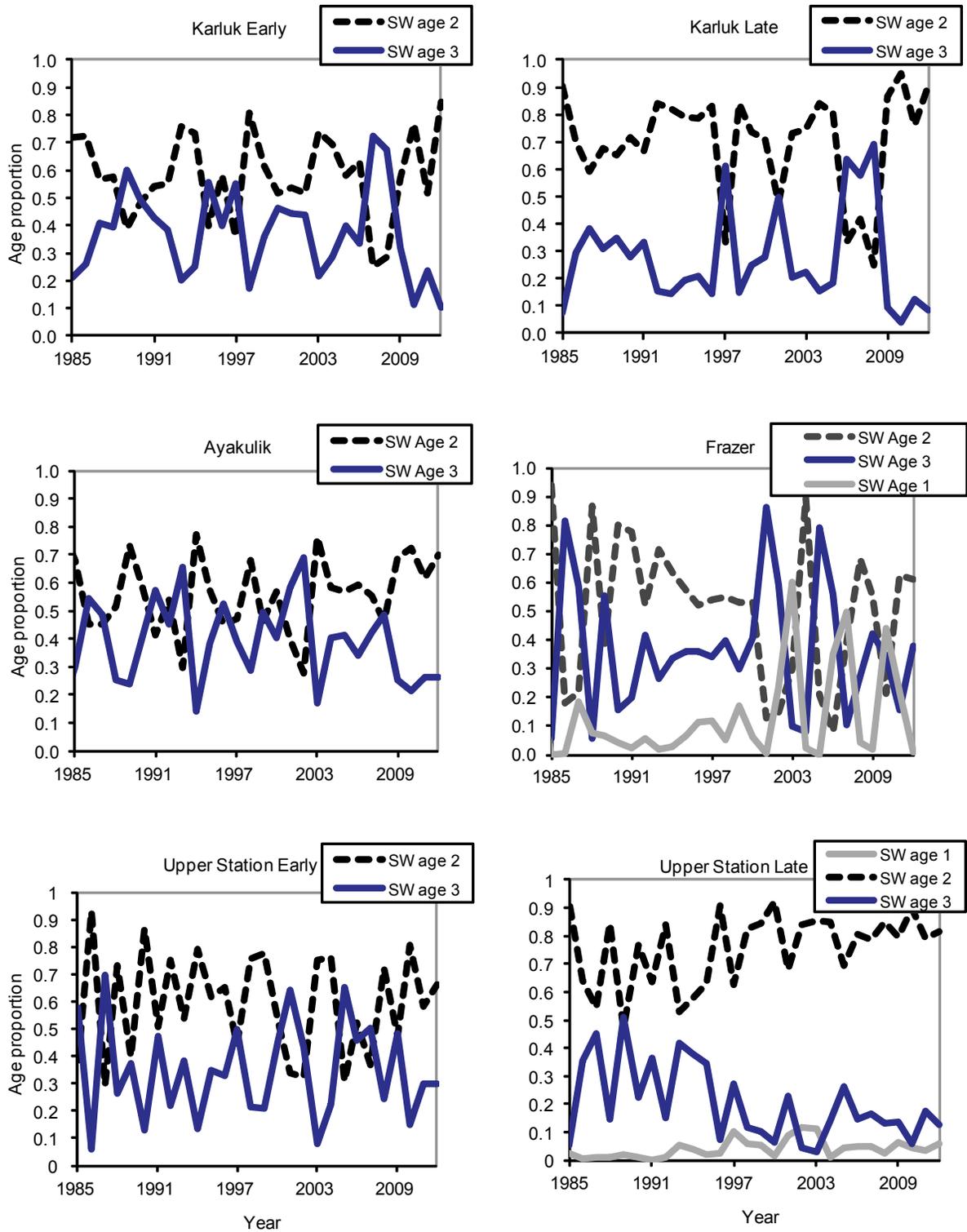


Figure 16.—Historical trends in the proportion of saltwater ages comprising the major Kodiak Island sockeye salmon annual runs 1985 to 2012.

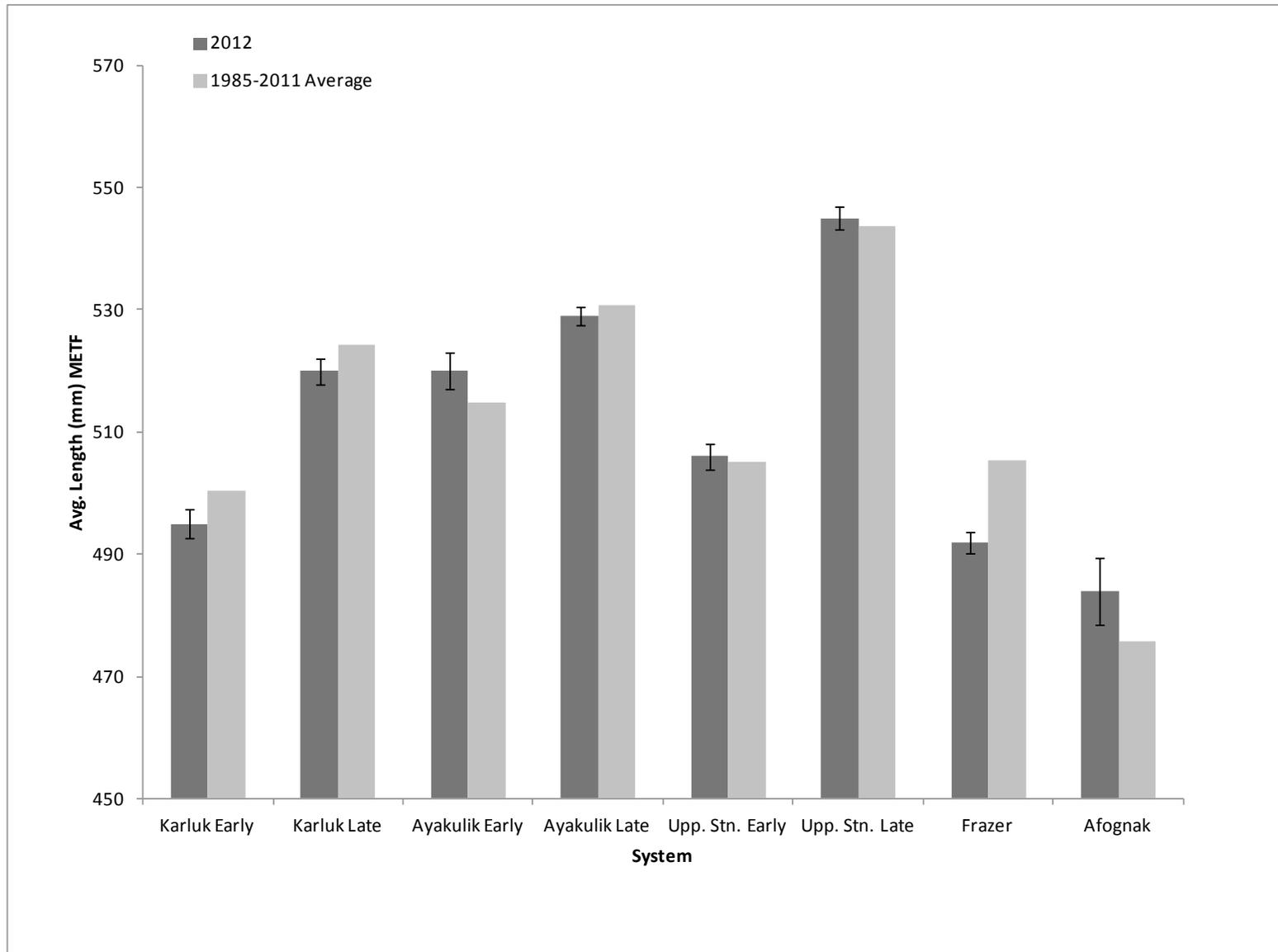


Figure 17.—Average size age-2.2 sockeye salmon by system, 2012 and historical average 1985 to 2011.

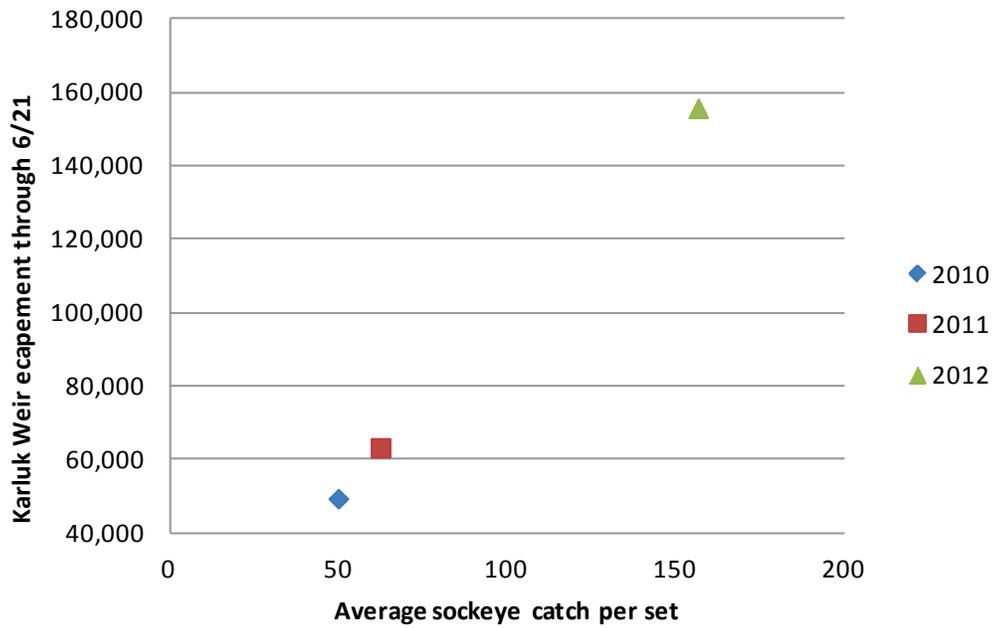


Figure 18.—Average sockeye catch per set during the Kodiak salmon test fishery and Karluk River escapement through 6/21 for 2010, 2011, and 2012.